

## Give the Smaller Players a Chance: Shaping the Digital Economy through Antitrust and Copyright Law

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## ARTICLES

# GIVE THE SMALLER PLAYERS A CHANCE: SHAPING THE DIGITAL ECONOMY THROUGH ANTITRUST AND COPYRIGHT LAW

DOUGLAS L. ROGERS\*

### I. INTRODUCTION

The emergence of the digital economy requires a balance between competition and intellectual property. The world economy's tremendous rise is due, in large part, to the technological prowess of global digital powerhouses; including Intel, Microsoft, and Sony. Yet the success of these and other powerful organizations has raised a significant amount of discourse regarding the relation between antitrust and intellectual property laws.

Historically, the United States has walked a line between encouraging the growth of emerging businesses and enduring a certain amount of dominance in the marketplace by successful organizations. As global economic prosperity has reached a new level of unprecedented growth, questions arise as to whether steps must be taken to ensure that new businesses are presented the same opportunities to develop as current industry giants received. Naturally, this leads to an examination of the laws and policies that govern economic competition and intellectual property.

The importance of a carefully crafted antitrust policy is apparent in the *United States v. Microsoft Corp.*<sup>1</sup> litigation, "not only because of the obviously huge impact that cyberspace has and will have on the world economy, but because the outcome of the case will establish precedent for competition policy in information and new media industries."<sup>2</sup>

Although receiving less publicity, the *Intergraph Corp. v. Intel Corp.*<sup>3</sup>

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1. 97 F. Supp. 2d 59 (D.C. Cir. 2000).

2. Debra J. Aron & Steven S. Wildman, *Economic Theories of Tying and Foreclosure Applied—and Not Applied—in Microsoft*, 14 ANTITRUST ABA 48 (1999).

3. 88 F. Supp. 2d 1288, 54 U.S.P.Q.2d (BNA) 1431 (N.D. Ala. 2000).

antitrust case has similar significance. One commentator has said: "The two cases, then, have an opportunity to instruct on not just when a monopolist may refuse to deal [Intel] but also on under what terms a monopolist may deal [Microsoft]. The cases, though, do seem to come together where intellectual property and antitrust intersect with contract law."<sup>4</sup> Other commentators have recognized the tension between intellectual property and antitrust laws, stating:

[M]omentous issues [are] gnawing away at the software industry today . . . . On one side stands property rights—in the form of copyrights, and increasingly patents and trademarks—and the policy they embody: incentives for creative initiative. On the other stands the policy of open, robust competition, manifested both in antitrust law and in limitations embedded in the property rules themselves. Today, as before, the legal system is asked to determine the competitive reach of entitlements, and so thereby to set the boundaries of competition.<sup>5</sup>

While the legal issues presented by computer software and technology develop, the Internet has become the brave new world of cheap and easy access to potentially every consumer in the world. It has rapidly become *the* method of communication and a crucial part of the distribution chain. Companies with traditional distribution lines are scrambling to take advantage of, and gain dominance in, the Internet's new medium of distribution. Conversely, as a result of the digital revolution, many companies have challenged the dominance of existing companies through the development of software programs and other products that eliminate the need for existing hardware, software products, or services of other companies. The continued dominance of computer networks has also been challenged.

An important characteristic of computer networks is compatibility. Computer hardware must be compatible with a computer's operating system, which in turn must be compatible with the application programs used with the computer.<sup>6</sup> The computer system must be able to receive, store, and transmit

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4. Maureen A. O'Rourke, *Striking a Delicate Balance: Intellectual Property, Antitrust, Contract, and Standardization in the Computer Industry*, 12 HARV. J.L. & TECH. 1, 24 (1998).

5. ROBERT P. MERGES, WHO OWNS THE CHARLES RIVER BRIDGE? INTELLECTUAL PROPERTY AND COMPETITION IN THE SOFTWARE INDUSTRY 2 (UC Berkeley Public Law and Legal Theory, Working Paper No. 15, 1999), available at <http://papers.ssrn.com/>.

6. See Michael L. Katz & Carl Shapiro, *Antitrust in Software Markets*, in COMPETITION, INNOVATION AND THE MICROSOFT MONOPOLY: ANTITRUST IN THE DIGITAL MARKETPLACE 29, 33 (Jeffrey A. Eisenbach & Thomas M. Lenard eds., 1998) [hereinafter DIGITAL MARKETPLACE].

Network effects also result in compatibility being a critical dimension of industry structure and conduct. When two programs can communicate with one another and/or be used with the same complementary system components, they are said to be compatible. . . . [T]he leading supplier of software in a given category has incentives to prevent others from

data through the Internet to and from the servers connected to the Internet to maximize the value of the computer system. It is important to remember that different elements of the computer system will not be useful unless the producers of the elements are able to make the various elements of the system work together.<sup>7</sup>

Another important characteristic of computer networks is the existence of “network effects,” the term used to describe “markets in which the value that consumers place on a good increases as others use the good.”<sup>8</sup> For example, if only one person had a telephone, the telephone would be worthless to that individual unless the telephone were of artistic or sentimental value. As more people acquired telephones, the value of each telephone to the owner would increase (assuming lines were connected to the telephones). As the ownership of telephones proliferated, presumably the amount that individuals would be willing to pay for a telephone and telephone service would increase as well.<sup>9</sup> Just as the value of a telephone increases with each new user, computer networks increase in value much the same way.

As the use of computer networks proliferate, antitrust and copyright laws

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offering compatible products. . . . Antitrust can potentially play a major role in defining the limits on the ability of a dominant firm to block compatibility or extend its power by controlling interfaces.

*Id.* See also O'Rourke, *supra* note 4, at 4:

[T]he operating system builds on the hardware, while the application software builds on the operating system. At each level, there is an interface to the next higher level . . . .

Because of this layered architecture and incompatibility across different systems, both the microprocessor and operating system markets historically have been characterized by network effects. In other words, a particular microprocessor or operating system becomes more valuable as more people adopt it.

7. See *Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255, 1261 n.14 (N.D. Ala. 1998), *vacated by* 195 F.3d 1346, 52 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 1999) (“[O]perating systems, microprocessors, and computer subsystems such as Intergraph’s graphic subsystems, must be carefully matched to assure reliable optimum performance.”). For a detailed discussion of how compatibility may affect competition, see Joseph Farrell & Michael L. Katz, *The Effects of Antitrust and Intellectual Property Law on Compatibility and Innovation*, 43 ANTITRUST BULL. 609 (1998).

8. Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479, 481 (1998).

9. Lemley has divided the concept of network effects into three parts: actual networks (e.g., telephones), virtual networks (e.g., computer software) and positive feedback effects. *Id.* at 488–94. For other discussions of network effects, see David Balto & Robert Pitofsky, *Antitrust and High-Tech Industries: The New Challenge*, 43 ANTITRUST BULL. 583 (1998); Kenneth G. Elzinga & David E. Mills, *PC Software*, 44 ANTITRUST BULL. 739, 756–60 (1999); DIGITAL MARKETPLACE, *supra* note 6. The significance of network effects in the computer industry is not universally accepted. See Timothy J. Muris, *Is Heightened Antitrust Scrutiny Appropriate for Software Markets?*, in DIGITAL MARKETPLACE, *supra* note 6, at 91 (“As many economists at this conference have argued, software markets have special characteristics, but so do most industries. . . . The traditional antitrust and economic tools are adequate for the task, without resort to the strong network effects theory that fails to describe the real world.”).



address an issue of great importance: the varying degrees of power that market participants are allowed to exercise. Under antitrust law, a company with monopoly power, "the power to control prices or exclude competition," is prohibited from taking actions deemed to be anticompetitive, even though companies without monopoly power may take those same actions.<sup>10</sup> Under copyright law, a copyright holder maintains a monopoly on exclusive rights/powers associated with the copyrighted product.<sup>11</sup> Copyright law permits a monopoly on the copying and distributing of a copyrighted work, and a copyright owner can have a court enjoin persons who improperly violate those rights. Although both antitrust and copyright laws have the "common purpose of promoting innovation and enhancing consumer welfare,"<sup>12</sup> they have different approaches to achieving this purpose.<sup>13</sup>

It can now be seen that there needs to be a balance between antitrust and copyright law to ensure the innovation and consumer welfare these disciplines seek to promote. To the extent the law affords broad intellectual property protections to computer software, arguably antitrust enforcement against

10. *United States v. Grinnell Corp.*, 384 U.S. 563, 571 (1966) (quoting *United States v. E. I. du Pont de Nemours & Co.*, 351 U.S. 377, 391 (1956)).

11. On the other hand, the Department of Justice (DOJ) and the Federal Trade Commission (FTC):

[W]ill not presume that a patent, copyright, or trade secret necessarily confers market power [in this context referring to the power to raise prices or restrict output] upon its owner. Although the intellectual property right confers the power to exclude with respect to the specific product, process, or work in question, there will often be sufficient actual or potential close substitutes for such product, process, or work to prevent the exercise of market power.

AMERICAN BAR ASSOCIATION, THE 1995 FEDERAL ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY § 2.2, at 75 (1996) [hereinafter LICENSING GUIDELINES]. The Licensing Guidelines list "factors . . . that guide the Agencies' [DOJ and FTC] internal analysis in exercising their prosecutorial discretion. They are not intended to circumscribe how the Agencies will conduct the litigation of cases that they decide to bring." *Id.* § 5.3 n.36. See also J. Dianne Brinson, *Proof of Economic Power in a Sherman Act Tying Arrangement Case: Should Economic Power Be Presumed When The Tying Product Is Patented Or Copyrighted?*, 48 LA. L. REV. 29 (1987).

12. LICENSING GUIDELINES, *supra* note 11, § 1, at 72-73.

13. See Michael H. Kauffman, *Image Technical Services, Inc. v. Eastman Kodak Co.: Taking One Step Forward and Two Steps Back In Reconciling Intellectual Property Rights and Antitrust Liability*, 34 WAKE FOREST L. REV. 471 (1999).

What about the apparent conflict between intellectual property rights and our antitrust laws? There may in fact be a lot less conflict or even potential for conflict than the question implies . . . .

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[E]nforcement of the antitrust laws no longer begins with the assumption that restrictive use of intellectual property is necessarily anticompetitive.

William J. Baer, *Antitrust Enforcement and High Technology Markets*, Address Before the American Bar Association Sections of Business Law, Litigation and Tort and Insurance Practice (Nov. 12, 1998), available at <http://www.ftc.gov/speeches/other/ipat6.htm>.

dominant software manufacturers must become more vigorous.<sup>14</sup> However, if the intellectual property protection for computer software is too narrow, other companies may free-ride on the efforts of software developers, thereby discouraging further innovation.<sup>15</sup> This Article opines that there needs to be both vigorous enforcement of antitrust laws against monopolists and reasonable limits placed on the scope of protection copyright law provides in the digital economy.

The application of copyright and antitrust laws to computer hardware, software, and the Internet is particularly complex.<sup>16</sup> Compatibility requirements and network effects may mean that there is a tendency for power

14. On the other hand, some commentators question the economic value of antitrust enforcement in general. See, e.g., Donald J. Boudreaux & Burton W. Folsom, *Microsoft and Standard Oil: Radical Lessons for Antitrust Reform*, 44 ANTITRUST BULL. 555, 575 (1999):

The specialization and entrepreneurial creativity lying at the heart of a market economy are fundamentally at odds with antitrust oversight by administrators, judges, and jurors who necessarily have no specialized knowledge nor experience of the kinds that are necessary for success in the industries in question. . . . It is best to strip administrators and courts of such power. At the very least, this conclusion seems valid for all antitrust oversight apart from policing against overt collusion.

See also *FTC Staff Report: Competition Policy In the New High-Tech, Global Marketplace: Executive Summary and Principal Conclusions*, 64 ANTITRUST L.J. 791, 795 (1996):

In the last twenty years, antitrust authorities have challenged business conduct involving intellectual property only rarely. . . . [I]n general, intellectual property licensing is procompetitive. Nonetheless, especially with respect to new technologies such as biotechnology and computers, there is concern that overbroad grants and enforcement of intellectual property rights may increase incentives for anticompetitive conduct. . . .

Peter C. Carstensen, *Remedying the Microsoft Monopoly: Monopoly Law, the Rights of Buyers, and the Enclosure Movement in Intellectual Property*, 44 ANTITRUST BULL. 577, 578 (1999):

By the use of legal doctrines Microsoft, in common with most other software producers, has retained nearly absolute control over the economic values resulting from its operating system by a "license" that allows it to determine the buyer's use of what they bought from it. . . . [T]he better response to the current problems of monopoly power created almost entirely by the legal system's excessive devotion to protecting the creators of new ideas, is to redefine the rights conferred, rather than to engage in ad hoc attacks on successful competitors who use such rights to entrench and exploit their position in the market.

15. Cf. Peter S. Menell, *Tailoring Legal Protection for Computer Software*, 39 STAN. L. REV. 1329, 1372 (1987):

Legal protection for mini- and microcomputer operating systems must reward important innovations without bestowing pure monopolies on expression. . . . [C]opyright protection is far from an ideal solution, as it exacerbates the market failures endemic to the market for operating systems, and that a hybrid form of patent protection with the availability of compulsory licensing has the potential to overcome these impediments. Mass marketed application programs, on the other hand, are amenable to copyright-type protection, but such protection should be of much shorter duration and feature more flexibility than traditional copyright doctrine.

16. This Article collectively refers to the computer industry as those companies producing computer hardware, peripherals, software, and Internet-related products.

to concentrate in the hands of one or a few companies,<sup>17</sup> raising questions about the efficacy of antitrust law. In addition, information stored digitally is very easy to transmit, but difficult to protect from copying.<sup>18</sup> The difficulty in protecting information raises questions about the effectiveness of copyright law. The challenges of protecting information, coupled with the uncertain extent of network effects, make the application of legal principles to rapidly changing facts and technologies difficult.

The intersection of technology with antitrust and copyright law involves two key concepts: access and control. The examination of these concepts has been undertaken in several prominent cases. Intel and Microsoft, two giants in the computer industry, have defended themselves against allegations that they have violated antitrust laws. Another industry leader, Sony, Inc., has been involved in visible litigation regarding claims of copyright infringement and violation of the recently-passed Digital Millennium Copyright Act (DMCA). And in one of the most anticipated copyright rulings, the Ninth Circuit recently held that Napster, Inc.<sup>19</sup> violated copyright law by operating a website that provided users with the ability to download copyrighted music.<sup>20</sup> Following the lead of the record industry, movie studios have moved to prevent the dissemination of software that can “unlock” encrypted DVDs.<sup>21</sup>

Part II of this Article examines the law of monopolization, including an

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17. Mark A. Lemley, *Antitrust and the Internet Standardization Problem*, 28 CONN. L. REV. 1041, 1052–54 (1996):

The nature of the Internet, and indeed of most computer software markets, is such that a single standard is likely to emerge as the dominant one at each of several levels of performance . . . .

. . . .

The fact that intellectual property law allows a company to prevent the copying of software means that the same factors which drive an industry towards a single standard may also drive that industry towards monopoly.

18. Randall Davis, *The Digital Dilemma: Intellectual Property in the Information Age*, National Research Council Public Briefing (Nov. 3, 1999), available at <http://www4.nationalacademies.org/news.nsf/>:

Digital information has radically changed the economics and practicality of copying by making it dramatically faster, cheaper, and easier to do . . . .

The net result is that it's becoming much easier to violate intellectual property laws in today's environment. . . . How can digital information be distributed, yet controlled, when households routinely have the ability to copy and redistribute vast amounts of it easily?

19. Napster, Inc., at <http://www.napster.com>.

20. *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 55 U.S.P.Q.2d (BNA) 1780 (N.D. Cal. 2000), *aff'd in part, rev'd in part*, 239 F.3d 1004, 57 U.S.P.Q.2d (BNA) 1729 (9th Cir. Feb. 12, 2001).

21. *See Universal City Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294, 55 U.S.P.Q.2d (BNA) 1873 (S.D.N.Y. 2000).

in-depth examination of the Microsoft and Intel antitrust litigation.<sup>22</sup> Part II argues that courts should look closely at contract restrictions imposed by companies with monopoly power, in addition to refusals by monopolists to do business with potential competitors, even though such restrictions and refusals by companies without monopoly power would pass without notice. Part III of this Article discusses the extent of a copyright holder's exclusive rights in a copyrighted product. Part III suggests that copyright owners of digital works should not be allowed to use copyright law to prevent other companies from making products compatible with the copyrighted work or from modifying or copying parts of the work that are unprotected by copyright law. Part IV examines the DMCA and illustrates that courts appear to apply the DMCA in a manner that benefits dominant companies. Next, Part IV revisits the question of antitrust liability for actions taken by copyright holders and the effect of the DMCA on such liability. Part IV concludes that although the DMCA prohibits companies from circumventing computer measures that block access to a computer program, known as digital locks, monopolists do not have free reign under the Sherman Antitrust Act (the "Sherman Act")<sup>23</sup> to impose such digital locks. Finally, Part V concludes by reiterating the need to interpret and apply antitrust and copyright laws in a manner that promotes the access of smaller companies to the new world economy.

## II. THE LAW OF MONOPOLIZATION

Monopolization consists of two elements: (1) The possession of monopoly power in a market; and (2) the willful acquisition or maintenance of this monopoly power, but not from growth or as a consequence of a better product, business acumen, or historical accident.<sup>24</sup> Attempted monopolization

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22. This Article does not address the question of appropriate relief against Microsoft which seems to present a unique situation and to be of limited applicability to future cases. Instead, this Article focuses on the balance between access and control that will help shape the future of the digital economy.

23. See generally 15 U.S.C. §§ 1–7 (1994 & Supp. V 1999).

24. See *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966). The Supreme Court stated earlier that the issue of monopoly power was whether the "power exists to raise prices or to exclude competition when it is desired to do so," not whether prices had been raised or competition excluded. *American Tobacco Co. v. United States*, 328 U.S. 781, 811 (1946). The power to exclude competition is sometimes referred to as the power to restrict output. See *Rebel Oil Co. v. Atlantic Richfield Co.*, 51 F.3d 1421, 1434 (9th Cir. 1995). Monopoly power has been discussed extensively in 2 JULIAN O. VON KALINOWSKI ET AL., *ANTITRUST LAWS AND TRADE REGULATION* § 25 (2d ed. 2000); Steven C. Salop, *The First Principles Approach to Antitrust, Kodak, and Antitrust At The Millennium*, 68 *ANTITRUST L.J.* 187 (2000); PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW—AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION* §§ 4, 5 (1997); ABA SECTION OF ANTITRUST LAW, *ANTITRUST LAW DEVELOPMENTS* 230–44 (4th ed. 1997).

consists of three elements: (1) predatory or anticompetitive conduct; (2) intent to monopolize; and (3) the probability of achieving monopoly power.<sup>25</sup> For both monopolization and attempted monopolization,<sup>26</sup> the “test” of the defendant’s conduct<sup>27</sup> is whether the conduct constituted competition on the merits and was thus legal,<sup>28</sup> or constituted anticompetitive<sup>29</sup> conduct and was

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25. See *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993) (requiring a dangerous probability of achieving monopoly power).

26. Some courts have referred to monopoly leveraging as a separate antitrust offense. In *United States v. Griffith*, for instance, the Supreme Court said that a monopolist could not use its monopoly power in one market “to stifle competition by denying competitors less favorably situated access to the market.” 334 U.S. 100, 108 (1948). Relying on *Griffith*, the Second and Sixth Circuits have expressly held that monopoly leveraging violated § 2, even though there was no dangerous probability of gaining monopoly power in the secondary market. See *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 275 (2d Cir. 1979); *Kerasotes Mich. Theaters v. Nat’l Amusements, Inc.*, 854 F.2d 135 (6th Cir. 1988). Other courts have expressly limited or rejected the theory of monopoly leveraging. See *Fineman v. Armstrong World Indus., Inc.*, 980 F.2d 171, 206 (3d Cir. 1992); *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536, 549 (9th Cir. 1991). Subsequent to these decisions, the Supreme Court in *Spectrum Sports* held that in order to succeed on an attempted monopolization claim there had to be “a dangerous probability of achieving monopoly power.” 506 U.S. 447 at 456. In the Microsoft antitrust litigation, Judge Jackson expressly rejected monopoly leveraging as a separate antitrust claim. See *United States v. Microsoft Corp.*, No. 98-1233 (TPJ), 1998 U.S. Dist. LEXIS 14231, at \*86 (D.D.C. Sept. 14, 1998). However, if a monopolist attempts, through the use of contracts, to gain an advantage in the secondary market, the injured party may have a claim, such as tying, under § 1 of the Sherman Act. For instance, in *Directory Sales Mgmt. Corp. v. Ohio Bell Tel. Co.*, the court said that “[u]nder section 1, a contract, combination or conspiracy that unreasonably restrains trade by leveraging a seller’s monopoly power in one market into another market is illegal.” 833 F.2d 606, 611 (6th Cir. 1987).

27. In other words, in monopolization cases, what conduct constitutes “willful acquisition or maintenance” of monopoly power, and in attempted monopolization cases, what constitutes “predatory or anticompetitive conduct.” *Transamerica Computer Co., Inc. v. IBM*, 698 F.2d 1377, 1382 (9th Cir. 1983) (quoting 3 P. AREEDA & D. TURNER, *ANTITRUST LAW* ¶ 828, at 321 (1978)).

28. “‘Exclusionary’ conduct is conduct, other than competition on the merits or restraints reasonably ‘necessary’ to competition on the merits, that reasonably appear capable of making a significant contribution to creating or maintaining monopoly power.” AREEDA & HOVENKAMP, *supra* note 24, ¶ 651f. Areeda also concludes, however, that “[h]armful ‘exclusionary’ conduct is not proved merely by establishing that a monopolist has committed business torts, has violated § 5 of the FTC Act, or has violated other provisions of the Sherman or Clayton Acts.” *Id.* Other commentators have questioned attempts to identify anticompetitive conduct. See Carstensen, *supra* note 14, at 617 (“The Microsoft litigation should concern the legality of its continued market dominance and not the legality of specific actions.”); *Apex Oil Co. v. DiMauro*, 713 F. Supp. 587, 600 (S.D.N.Y. 1989) (“Section 2 . . . is aimed primarily not at improper conduct but at a pernicious market structure in which the concentration of power saps the salubrious influence of competition.”) (quoting *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 272 (2d Cir. 1979)).

29. See *Great W. Directories, Inc. v. S.W. Bell Tel. Co.*, 63 F.3d 1378, 1385 (5th Cir. 1995) (“Section 2, under both a claim of monopoly and a claim of attempted monopoly, proscribes exclusionary conduct.”); *Invamed Inc. v. Barr Labs., Inc.*, 22 F. Supp. 2d 210, 218 (S.D.N.Y. 1998) (“Both causes of action, monopolization and attempt to monopolize, require anticompetitive behavior . . . .”); *Transamerica*, 698 F.2d at 1382–83 & n.2 (the test for “willful acquisition or maintenance” of monopoly power is whether the conduct is “unreasonably restrictive of competition” and the test for “predatory or anticompetitive” conduct under an attempt to monopolize is “measured against the

thus illegal. There are no bright line categories delineating what constitutes anticompetitive conduct under section 2 of the Sherman Act ("section 2"),<sup>30</sup> except, arguably, contracts that would violate section 1 of the Act ("section 1").<sup>31</sup> Therefore, a number of questions are unresolved: (1) What is the role of the defendant's intent?<sup>32</sup> (2) How should conduct that has both pro-competitive and anticompetitive aspects be treated?<sup>33</sup> and (3) What is the importance of market effects caused by a monopoly?<sup>34</sup>

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same 'reasonableness' standard.") (quoting 3 P. AREEDA & D. TURNER, ANTITRUST LAW ¶ 828, at 321 (1978)); *Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594, 626 (1953); *Cal. Computer Prods., Inc. v. IBM*, 613 F.2d 727, 734-38 (9th Cir. 1979).

30. "Nearly a century after enactment, section 2 of the Sherman Act remains among the most perplexing of the antitrust laws." Alon Y. Kapen, Note, *Duty to Cooperate Under Section 2 of the Sherman Act: Aspen Skiing's Slippery Slope*, 72 CORNELL L. REV. 1047, 1051 (1987). See also VON KALINOWSKI, *supra* note 24, § 25.04:

One of the most vexing problems in antitrust law is deciding when a person in possession of monopoly power has unlawfully obtained or maintained that power so that its monopoly power crosses over into illegal monopolization. . . . The first set of issues concerns what role intent plays in deciding if the monopolist has acted unlawfully. The second set of issues involves determining what conduct violates Section 2.

31. "A monopolist's conduct that violates § 1 necessarily violates § 2." *Microsoft*, 1998 U.S. Dist. LEXIS 14231, at \*72 (citing *United States v. Griffith*, 334 U.S. 100, 106 (1948)) (emphasis in original). In regard to a variety of supply contracts, it has been stated that "[b]ecause the § 1 violation here consists of the unreasonable impairment of the opportunities of rivals, it necessarily amounts to 'exclusionary' conduct when employed by a monopolist and thus is a violation of § 2. Thus, no unique substantive § 2 test need be formulated." AREEDA & HOVENKAMP, *supra* note 24, ¶ 768a. Cf. *IBM*, 613 F.2d at 736 n.9 ("[N]ot all violations of § 1 constitute acts of monopolization under § 2.").

32. Areeda explained that "the aggressive firm always 'intends' to harm rivals if injury to rivals is a consequence of one's own increase in market share." AREEDA & HOVENKAMP, *supra* note 24, ¶ 601. See also Steven C. Salop & R. Craig Romaine, *Preserving Monopoly: Economic Analysis, Legal Standards, and Microsoft*, 7 Geo. MASON L. REV. 617 (1999). Salop and Romaine suggest that regardless of whether anticompetitive intent is a separate requirement, "evidence on [sic] purpose still would be relevant in that it throws light on the likely effect of the conduct." *Id.* at 660 n.121. But see Ronald A. Cass & Keith N. Hylton, *Preserving Competition: Economic Analysis, Legal Standards and Microsoft*, 8 Geo. MASON L. REV. 1 (1999). Cass and Hylton argue that "bad" intent or purpose is found through a process of elimination: "[O]nly if no legitimate purpose is plausible will courts presume conduct to be sufficiently anti-competitive [sic] as to violate Section 2's commands." *Id.* at 36. In contrast, as stated in *Spectrum Sports*, specific intent is an express element of an attempted monopolization case. 506 U.S. at 456.

33. In response to a new product design that improves the efficiency of a product (pro-competitive), but also makes the product incompatible with the products of competitors (anticompetitive), Cass and Hylton would likely argue that only if there is *no legitimate plausible pro-competitive purpose*, should action be judged to violate § 2. See Cass & Hylton, *supra* note 32, at 36. Alternatively, Salop and Romaine would argue that a restrictive standard "is more consistent with the consumer welfare goal of the antitrust laws and considerations of optimal incentives and optimal deterrence." Salop & Romaine, *supra* note 32, at 670.

34. *Compare SMS Sys. Maint. Servs., Inc. v. Digital Equip. Corp.*, 188 F.3d 11, 26 (1st Cir. 1999), *cert. denied*, 528 U.S. 1188 (2000) ("If there is no objective indication of harm to competition [in the aftermarket], we cannot stifle a firm's ability to compete in the primary market just because

A monopoly maintains a significant stigma in American jurisprudence. Yet despite the negative connotations, “[a] firm may [legally] acquire a monopoly simply by virtue of being a better competitor. For example, a firm may have better production methods or be more innovative than its past and prospective competitors.”<sup>35</sup> To that end, antitrust laws will not be applied to a “monopolist [that] behaves in an economically efficient manner.”<sup>36</sup>

### A. *The Unilateral Exercise of Monopoly Power*

The prohibition against certain exercises of monopoly power is set forth in section 2 of the Sherman Act and “remains among the most perplexing of the antitrust laws.”<sup>37</sup> The broad and amorphous nature of section 2 can be largely attributed to the general concern over monopoly power because “it is laden with the possibility of abuse; because it encourages sloth rather than the active quest for excellence; and because it tends to damage the very fabric of our economy and our society . . . .”<sup>38</sup>

In the Sherman Act, section 1 prohibits concerted activity between firms, while section 2 prohibits unilateral conduct: “Every person who shall monopolize, or attempt to monopolize, . . . any part of the trade or commerce among the several States . . . shall be deemed guilty of a felony . . . .”<sup>39</sup> As

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some of its aftermarket competitors complain that they have lost business as a result.”), *with Angelico v. Lehigh Valley Hosp., Inc.*, 184 F.3d 268, 276 n.5 (3d Cir. 1999) (“[A] finding of no anticompetitive market effect would not suffice to dispose of Angelico’s claim under section 2 of the Sherman Act.”), *and Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1182, 32 U.S.P.Q.2d (BNA) 1385, 1412 (1st Cir. 1994) (“‘Exclusionary conduct’ . . . [must] reasonably appear[] capable of making a significant contribution to creating or maintaining monopoly power.”). In a unique approach, Salop and Romaine suggest a sliding scale which would provide that “the court may set the bar on these efficiency claims higher the larger are the market power harms shown.” Salop & Romaine, *supra* note 32, at 651 n.104. In *SMS*, however, it appears the court considered harm to competition as an aid to determine whether the conduct was exclusionary, not as a separate element of a § 2 monopolization claim. 188 F.3d 11. Moreover, it is reasonable to draw a distinction between the claim that a monopoly was obtained illegally (in which case evidence of harm to competition may be appropriate), from a claim that a monopoly gained legally was being *maintained* illegally (in which case evidence of harm to competition should not be required).

35. *Alaska*, 948 F.2d at 547.

36. *Id.* at 548 (noting that efficient and natural monopolies are tolerated by antitrust law).

37. Kapen, *supra* note 30, at 1051.

38. *Berkey*, 603 F.2d at 273.

39. 15 U.S.C. § 2. As in the case of § 1 offenses, 15 U.S.C. § 15 authorizes private persons injured by violations of § 2 to sue, while 15 U.S.C. § 15a authorizes the United States to bring an action for violations of §§ 1, 2. See 15 U.S.C. § 15a (1994). This Article does not discuss the requirement that private plaintiffs show “antitrust injury,” which has been defined as “injury of the type the antitrust laws were intended to prevent and that flows from that which makes the defendants’ acts unlawful.” *Doctor’s Hosp. of Jefferson, Inc. v. S.E. Med. Alliance, Inc.*, 123 F.3d 301, 305 (5th Cir. 1997) (quoting *Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc.*, 429 U.S. 477 (1977)). Section 2 also prohibits combinations and conspiracies to monopolize, a provision that is

with section 1, the purpose of section 2 is not to protect “private concerns” (read: competitors), but to protect “competition itself.”<sup>40</sup>

### *B. Anticompetitive Monopoly Power*

#### 1. Contractual/Marketing Practices by a Monopolist

Courts have used different standards for evaluating whether conduct is anticompetitive. At one end of the spectrum, courts have engaged in an “avoidable consequences” inquiry to determine whether conduct is anticompetitive.<sup>41</sup> An early case utilizing the avoidable consequences test concluded that certain provisions in a lease agreement violated section 2 of the Sherman Act, even though the same lease would have otherwise been legal had it been used by a company without monopoly power.<sup>42</sup> In reaching this conclusion, the court cited provisions in the lease that discouraged companies from using the machines of competitors and found the provisions to be anticompetitive.<sup>43</sup> Section 2 of the Sherman Act was violated by the lease because the cited provisions were “not practices which can be properly described as the inevitable consequences of ability, natural forces, or law.”<sup>44</sup>

A later standard for evaluating whether conduct is anticompetitive under section 2 can be found in *United States v. Grinnell Corp.*, in which the

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outside the scope of this Article.

40. *Spectrum Sports*, 506 U.S. at 458.

41. See generally *United States v. ALCOA*, 148 F.2d 416, 65 U.S.P.Q. (BNA) 6 (2d Cir. 1945).

42. *United States v. United Shoe Mach. Corp.*, 110 F. Supp. 295, 344 (D. Mass. 1953) (stating the leases were “the sort of activities which would be engaged in by other honorable firms. And, to a large extent, the leasing practices conform to long-standing traditions in the shoe machinery business.”).

43. The anticompetitive provisions included 10 year terms, repairing the machines at no extra charge, and invocation of the requirement that machines operate at full capacity only when the machines were not used to full capacity because machines manufactured by the monopolist’s competitors were used concurrently. See *id.* at 320, 323–25.

44. *Id.* at 344. This decision was affirmed *per curiam* by the Supreme Court in a one sentence opinion in *United States v. United Shoe Mach. Corp.*, 347 U.S. 521 (1954). However, courts no longer appear to accept the guidance of *United Shoe* or *ALCOA*.

Opinion about the offense of monopolization has undergone an evolution. Forty years ago it was thought that even a firm with a lawful monopoly . . . could not be allowed to defend its monopoly against would-be competitors by tactics otherwise legitimate; it had to exercise special restraint . . . Later, as the emphasis of antitrust policy shifted from the protection of competition as a process of rivalry to the protection of competition as a means of promoting economic efficiency, it became recognized that the lawful monopolist should be free to compete like everyone else; otherwise, the antitrust laws would be holding an umbrella over inefficient competitors.

*Olympia Equip. Leasing Co. v. W. Union Tel. Co.*, 797 F.2d 370, 375 (7th Cir. 1986) (internal citations omitted).



Supreme Court referred to “substantial barriers to competition.”<sup>45</sup> The Court held that Grinnell had obtained monopoly power “in large part by unlawful and exclusionary practices.”<sup>46</sup>

In another section 2 case, the Supreme Court in *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, vaguely referred to conduct that unnecessarily restricted competition.<sup>47</sup> Later, in *Great Western Directories, Inc. v. Southwestern Bell Telephone Co.*, the Fifth Circuit found that Southwestern Bell monopolized the yellow pages by raising the price, imposing restrictive conditions on the sale of directory listing information, and decreasing the price for advertisement space.<sup>48</sup> Applying *Aspen Skiing*, the Fifth Circuit defined exclusionary conduct as that which “not only tends to impair the opportunities but also does not further competition on the merits or does so in an *unnecessarily restrictive way*.”<sup>49</sup>

In a variant of the unnecessarily restrictive test, the plaintiff in *LePage’s, Inc. v. 3M, Inc.*, claimed that 3M had violated section 2 by monopolizing the market for transparent tape.<sup>50</sup> LePage’s claimed that 3M discouraged distributors from buying competitors’ lower priced tape by offering cash incentives to distribute 3M tape to the exclusion of competitors and marketing lower priced tape to its customers to get the customers to switch from

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45. 384 U.S. at 578 (this was a narrower test for anticompetitive conduct than *United Shoe’s* standard of “conduct which is not an inevitable consequence of competition.”).

46. 384 U.S. at 576. “Exclusionary,” “predatory,” and “anticompetitive” are used interchangeably in this Article. Two exclusionary practices specifically noted by the Court included Grinnell’s requirement that subscribers sign five-year contracts and the subscribers’ retention of title to the installed protective services equipment. *See id.* at 578. The Supreme Court recognized, however, that the district court might not completely prohibit these two practices (“The various aspects of this controversy must be explored by the District Court and suitable protective provisions included in the decree that deprive these two devices of the coercive power that they apparently have had towards restraining competition and creating a monopoly.”). *Id. Cf. SMS*, 188 F.3d at 25–26 (“The improper conduct identified by SMS is the inclusion of a three-year warranty on new equipment in the purchase package. But a warranty has obvious virtue as a tool of competition, and the commercial justification for its use is compelling.”).

47. 472 U.S. 585, 605 n.32 (1985).

48. 63 F.3d 1378, 1383 (5th Cir. 1995).

49. *Id.* at 1385–86 (emphasis added). The Fifth Circuit said that “[e]xclusionary conduct is conduct that tends to exclude or restrict competition and is not supported by a valid business reason.” *Id.* at 1385. Read together, these statements suggest two steps: (1) if conduct is not supported by a valid business reason, it is anticompetitive; and (2) even if the conduct is supported by a valid business reason, if the conduct is unnecessarily restrictive of competition, the conduct is anticompetitive. The Fifth Circuit affirmed on all claims except one—a market which the independent publishers had not been prepared to enter. *Id.* at 1391. In addition, the court concluded that injury to competition was not an element of a § 2 claim, finding “evidence of injury to competition supports a finding of exclusionary conduct.” *Id.* at 1385.

50. *LePage’s, Inc. v. 3M*, No. 97-3983, 1999 U.S. Dist. LEXIS 8036, at \*7 (E.D. Pa. May 28, 1999).

LePage's tape to the higher priced Scotch tape.<sup>51</sup> After the jury found that 3M had violated section 2, the district court noted that "if a firm has been attempting to exclude rivals on some basis other than efficiency, it is fair to characterize its behavior as predatory."<sup>52</sup>

In contrast to the avoidable consequences inquiry, at the other end of the spectrum lie cases which suggest that a monopolist may engage in the same conduct an organization without monopoly power could undertake. In *Neumann v. Reinforced Earth Co.*, the court noted that "[p]redation involves the deliberate seeking of monopoly power by means other than superior efficiency, by means that would not be employed in the normal course of competition."<sup>53</sup> In *Stearns Airport Equipment Co. v. FMC Corp.*, the Fifth Circuit said that if "conduct has no rational business purpose other than its adverse effects on competitors, an inference that it is exclusionary is supported."<sup>54</sup> To that end, the tests adopted in *Neumann*<sup>55</sup> and *Stearns*<sup>56</sup> provide a monopolist with the ability to take actions without violating section 2 if the actions were compelled by rational reasons. Conversely, the tests adopted in *Grinnell*, *Aspen Skiing*, *Great Western*, and *LePage* provide that a monopolist may violate section 2 even if a rational reason exists for the actions.<sup>57</sup>

## 2. Changes in Product Design by a Monopolist

In addition to restrictions on contracts and marketing practices, a monopolist may violate section 2 by making its products incompatible with those produced by its competitors. In *Northeastern Telephone Co. v. AT&T*,<sup>58</sup>

51. *Id.*

52. *LePage's, Inc. v. 3M*, No. 97-3983, 2000 U.S. Dist. LEXIS 3087, at \* 15 (E.D. Pa. Mar. 14, 2000) (quoting *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 605 (1985) (omitting internal quotation and citation)). The court did acknowledge that harm to competition was "one of several factors to consider in determining whether 3M's conduct was predatory." *LePage's*, 2000 U.S. Dist. LEXIS 3087, at \*16. The court also concluded that proving injury to competition was not a necessary element of a monopolization claim. *Id.*

53. 786 F.2d 424, 427, 229 U.S.P.Q. (BNA) 383, 385 (D.C. Cir. 1986).

54. 170 F.3d 518, 522 (5th Cir. 1999). Presumably, companies that are not monopolists take many unilateral actions that have rational business purposes (e.g., entering into five-year contracts), but do not stifle competition or harm competitors due to the small size of the company.

55. 786 F.2d at 427, 229 U.S.P.Q. (BNA) at 385.

56. 170 F.3d at 522.

57. See *Avery Dennison Corp. v. Acco Brands, Inc.*, No. CV 99-1877 DT (Mcx), 2000 U.S. Dist. LEXIS 3938 (C.D. Cal. Feb. 23, 2000) (concluding that certain acts of the defendant could violate § 2, even though the plaintiff in that case had engaged in some of the same conduct (e.g., exclusivity payments)).

58. 651 F.2d 76 (2d Cir. 1981).

the plaintiff accused AT&T of designing incompatible protective couplers.<sup>59</sup> In response, the Second Circuit indicated that designing products to ensure incompatibility with other products could constitute a violation of section 2, as the court stated that on remand “the *reasonableness of the couplers’ design* will be a crucial issue.”<sup>60</sup>

The legality of modifications by the monopolist under section 2 was examined in *C.R. Bard, Inc. v. M3 Systems, Inc.*<sup>61</sup> Bard was accused of modifying its biopsy gun in such a way as to prevent the use of competing replacement needles for its device.<sup>62</sup> The Federal Circuit held that in order for M3 to succeed on its claims against Bard, “M3 was required to prove that Bard made a change in its Biopsy gun for predatory reasons, i.e., *for the purpose of injuring competitors* in the replacement needle market, rather than for improving the operation of the gun.”<sup>63</sup> The Federal Circuit found there was substantial evidence at trial contradicting Bard’s insistence that the biopsy gun had been redesigned to make it easier to load and unload.<sup>64</sup> The

59. The protective couplers connected customer owned telephone terminal equipment with AT&T transmission lines. Northeastern believed that AT&T designed its couplers “to impede competition in the terminal equipment market. . . . [because] the couplers’ leads were incompatible with its PBXs and that the couplers required an external power source.” *Id.* at 94. As an external power source for the couplers was required, “a Northeastern customer, unlike one using SNET [an affiliate of AT&T] equipment, would lose outside telephone service in the event of a power failure.” *Id.* at 81, n.5. Testimony was presented “that the coupler could have been designed to operate using the power available in SNET’s telephone lines.” *Id.* at 94.

60. *Id.* at 95 (emphasis added). “A dominant firm may alter its product to the detriment of its smaller rivals, particularly those making complementary products. The alleged anticompetitive effect is sometimes characterized as ‘leverage,’ or sometimes as ‘implicit’ or ‘physical’ tie-ins.” AREEDA & HOVENKAMP, *supra* note 24, ¶ 776a. Areeda also asserts that “product improvement is protected and beyond antitrust challenge” and further concludes that “evidence that buyers prefer the redesigned product over the previous and still available product should conclusively be treated as evidence of an improvement, and therefore of legality.” *Id.* Areeda, however, would create an exception “where the defendant’s position in the dominant product is so substantial that the market for the older technology is eliminated.” *Id.* Yet a rule that the market for the old technology must be completely eliminated seems too difficult a test. What if the market is 95% eliminated? Also, if a product is improved by 1%, but the main purpose is to destroy competition and raise prices, why should such an action be immune in light of its purpose?

61. 157 F.3d 1340, 48 U.S.P.Q.2d (BNA) 1225 (Fed Cir. 1998), *reh’g en banc denied*, 161 F.3d 1380, 49 U.S.P.Q.2d (BNA) 1319 (Fed. Cir. 1998), *cert. denied*, 526 U.S. 1130 (1999). Bard initially brought suit against M3 for patent infringement, and M3 subsequently filed an antitrust counterclaim.

62. *See* 157 F.3d at 1369, 48 U.S.P.Q.2d (BNA) at 1244.

63. *See id.* at 1382, 48 U.S.P.Q.2d (BNA) at 1254 (Bryson, J., concurring in part and dissenting in part) (emphasis added).

64. *Id.*, 48 U.S.P.Q.2d (BNA) at 1254. Courts have recognized the business realities which may motivate products to be redesigned.

IBM, assuming it was a monopolist, had the right to redesign its products to make them more attractive to buyers whether by reason of lower manufacturing cost and price or improved performance. It was under no duty to help CalComp [sic] or other peripheral

court affirmed the finding of liability because of evidence that “Bard maintained its monopoly position by exclusionary conduct, to wit, modifying its patented gun in order to exclude competing replacement needles.”<sup>65</sup>

Product design was also examined in *Caldera, Inc. v. Microsoft Corp.*<sup>66</sup> Caldera claimed that Microsoft had violated the Sherman Act by intentionally making its operating system incompatible with other programs and by technologically tying Windows 3.1 and MS-DOS 6.22 into Windows 95.<sup>67</sup> The district court found that the Sherman Act was violated if “design choice is *unreasonably restrictive of competition*.”<sup>68</sup> The district court also noted that “Caldera’s claim of unlawful predatory conduct is based on the aggregate effect of all of Microsoft’s anticompetitive behavior.”<sup>69</sup> After denying

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equipment manufacturers survive or expand. IBM need not have provided its rivals with disk products to examine and copy, nor have constricted its product development so as to facilitate sales of rival products.

*IBM*, 613 F.2d at 744 (internal citations omitted). *ILC Peripherals Leasing Corp. v. IBM*, 458 F. Supp. 423, 440–41 (N.D. Cal. 1978), *aff’d*, 636 F.2d 1188 (9th Cir. 1980). “One internal Bard document showed that the gun modifications had no effect on gun or needle performance; another internal document showed that the use of non-Bard needles in the gun ‘could not possibly result in injury to either the patient or the physician.’” *Bard*, 157 F.3d at 1382, 48 U.S.P.Q.2d (BNA) at 1257.

65. *Id.*, 48 U.S.P.Q.2d (BNA) at 1257. Two judges in *Bard*, in concurring in the Order declining rehearing, stated:

If fundamental issues at the intersection of patent law and antitrust law were being decided, I would dissent from the court’s decision to deny an in banc rehearing. . . . The majority opinion on the antitrust issue ultimately determined that substantial evidence supported the jury’s verdict that this behavior was ‘predatory’ in violation of antitrust laws.

. . . .

The question of whether or not a cause of action premised upon the antitrust laws exists when a patentee redesigns a patented product within the scope of the patent claims, awaits another day.

*Bard*, 161 F.3d at 1380–81, 49 U.S.P.Q.2d (BNA) at 1320 (Gajarsa, J., concurring, in which Clevenger, J., joins). *Cf. In re IBM Peripheral EDP Devices Antitrust Litig.*, 481 F. Supp. 965 (N.D. Cal. 1979) (“Mallard was a design adopted primarily to preclude PCM competition, but it was a superior design, and its effect on competition was negligible. . . . This Court concludes that Mallard interface did not unreasonably restrict competition, and did not violate the Sherman Act.”).

66. 72 F. Supp. 2d 1295 (D. Utah 1999).

67. The technological tying claim was raised under §§ 1, 2 of the Sherman Act. *Caldera*, 72 F. Supp. 2d at 1319.

68. *Id.* at 1313 (emphasis added) (quoting *Transamerica Computer Co., Inc. v. IBM*, 481 F. Supp. 965, 1003 (N.D. Cal. 1979)). Caldera alleged that Microsoft had violated §§ 1, 2 of the Sherman Act. *See Caldera*, 72 F. Supp. 2d at 1296.

69. *Id.* at 1313. The court stated that if the evidence shows “a valid, not insignificant technological improvement has been achieved by the integration of two products,” then there has not been an illegal tying arrangement under § 1. *Id.* at 1325. This does not, however, address how the court would or should rule under § 2 if there was a significant technological improvement, but the anticompetitive effects of the changes could be shown to outweigh the technological improvements. The court recognized “the need to promote pro-competitive conduct in the technology world. Indeed, technological innovation is an important defense in defending antitrust allegations. . . . However, the Court finds that the D.C. Circuit [in *Microsoft*] has given too much deference to the

Microsoft's motion for summary judgment, Caldera was permitted to present, in support of its section 2 claim, evidence at trial of technological tying and intentional incompatibilities.<sup>70</sup>

Product design decisions, in other words, are not immune from antitrust scrutiny. However, courts have recognized that design changes should be given more deference than contract restrictions or marketing practices because of the importance of design changes in improving productivity and benefiting consumers.<sup>71</sup>

### 3. A Monopolist's Refusal to Deal with Competitors

The Supreme Court stated in *Lorain Journal Co. v. United States* that "[i]n the absence of any purpose to create or maintain a monopoly, the [Sherman] act does not restrict the long recognized right of [a] trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal."<sup>72</sup> Accordingly, the analysis undertaken by a court changes upon a finding of intent to create or maintain a monopoly.

In *Lorain*, a newspaper with a monopoly in the mass dissemination of

technology argument and not enough to current antitrust law." *Id.* at 1323.

70. The court suggested a variety of factors that could be considered in determining whether Microsoft had engaged in anticompetitive conduct, including: (a) prohibiting the unbundling of Windows and DOS; (b) inserting code which made DR DOS appear incompatible with Windows (even though Microsoft may have had a legitimate business reason for including the code in the beta version); and (c) no longer including Caldera in the advanced beta testing of Microsoft products. *See id.* at 1314–19, 1324. Although the court made most of its comments while discussing the § 1 tying claim, the also court recognized that the same issues applied in the § 2 claim by stating that "in addition to presenting its § 1 tying claim to the jury, Caldera will be allowed to present to the jury Microsoft's alleged unlawful tying arrangement of Windows 4.0 and MS-DOS 7.0 as part of Caldera's evidence in support of its § 2 claim for anticompetitive conduct." *Id.* at 1328. Caldera and Microsoft settled the litigation after this decision.

71. *Compare* Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc., 63 F.3d 1540, 1552 n.10 (10th Cir. 1995) ("Where, as here, however, the claimed product improvement takes the form of a marketing change, rather than some complex technological integration of previously separate functions, our degree of deference to product designers is reduced."), *with* Multivideo Labs, Inc. v. Intel Corp., No. 99 CIV. 3908 (DLC), 2000 U.S. Dist. LEXIS 110, at \*39–41 (S.D.N.Y. Jan. 7, 2000):

The evidence shows that Intel and the other members of the USB-IF [Universal Serial Bus Implementers Forum] are motivated by a desire to create a publicly available specification that will allow any developer to design a compliant product and that will encourage growth of the market for USB-compliant products.

72. *Lorain*, 342 U.S. at 155 (1951) (emphasis in original) (quoting *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919)). "All in all, . . . relief for arbitrary refusals to deal should be left to common law remedies or other forms of legislation." AREEDA & HOVENKAMP, *supra* note 24, ¶ 770e. Yet despite this statement, Areeda does not appear to reject the possibility that a refusal to deal, when combined with other actions, should be actionable under § 2 although concern is expressed as to the difficulty of administering a refusal to deal doctrine. *See id.*

news and advertising wanted to protect its monopoly and refused to accept local advertisements from any advertiser who placed ads with a new local radio station.<sup>73</sup> In addition, Lorain Journal Co. monitored the radio programs to determine which businesses were advertising on the radio and terminated the advertising contracts the newspaper had with those businesses.<sup>74</sup> The Supreme Court rejected the defendant's justification for its actions as an attempt to protect the local business community from outside competition and affirmed the injunction issued by the district court.<sup>75</sup> In affirming the section 2 violation, the Supreme Court said that "[i]t is indeed 'unreasonable, *per se*, to foreclose competitors from any substantial market.'"<sup>76</sup>

In contrast to refusing to do business with a competitor, a monopolist may also violate section 2 when it changes an established business practice with a competitor. Such a scenario was examined in *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*<sup>77</sup> In *Aspen*, three of the four Aspen ski areas were controlled by Aspen Skiing Co. (the "Aspen Monopolist"), while Aspen Highlands Skiing Corp. (the "Aspen Competitor"), controlled the fourth ski area in Aspen. After coexisting peacefully for years,<sup>78</sup> the Aspen Monopolist decided it would only offer an all-Aspen ski ticket if the Aspen Competitor agreed to accept a fixed percentage of the revenue.<sup>79</sup> When the two companies could not reach agreement on allocation of revenues, the all-Aspen

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73. 342 U.S. at 148.

74. See *id.* at 149. The following statement of the district court is telling: "The Journal admittedly has a right to select its advertisers for good reason or without reason, but it has no right in pursuit of monopoly to require them not to deal with a competitor." *United States v. Lorain Journal Co.*, 92 F. Supp. 794, 798 (N.D. Ohio 1950), *aff'd*, 342 U.S. 143, (1951). The district court added that "success crowning the Journal's efforts does not result from competition in the healthy sense of superior business skill and efficiency, but from the fact that while the Journal and WEOL are competitors, there is an area where the services they provide are complimentary rather than competitive in nature." 92 F. Supp. at 798.

75. *Lorain*, 342 U.S. at 154, n.8.

76. *Id.* at 154, n.7 (quoting *United States v. Griffith*, 334 U.S. 100, 106–07 (1948)). The Supreme Court and district court used "attempt to monopolize," but both said the Lorain Journal had a "substantial monopoly." *Loraine*, 342 U.S. at 187. Once WEOL (the competing radio station) began operating, competition for advertising ensued. Yet it appeared the Lorain Journal still had monopoly power, though it should make no difference for purposes of analyzing what limits § 2 places on the right of a company with monopoly power, or nearing monopoly power, to refuse to do business with a competitor.

77. 472 U.S. 585 (1985).

78. The Aspen Monopolist and Competitor had previously offered an "all-Aspen" ski ticket which permitted purchasers to ski at any of the four Aspen ski areas. *Id.* at 589.

79. The proposed agreement was 12.5% of the revenue, well below the Aspen Competitor's average allocation for the previous four years. *Id.* at 592. In addition, the Aspen Monopolist changed the pricing structure of its tickets, making it more difficult for the Aspen Competitor to offer a complimentary set of tickets, and refused to sell its own tickets to the Aspen Competitor. See *id.* at 593–94.

ski ticket was no longer offered.<sup>80</sup>

The Aspen Monopolist was found to have monopolized the Aspen downhill skiing market in violation of section 2. On appeal, the Supreme Court said the Aspen Monopolist had not simply rejected a new proposal, it had “*elected to make an important change in a pattern of distribution . . . that had originated in a competitive market and had persisted for several years.*”<sup>81</sup> The Court stated that in order to determine if conduct was predatory,<sup>82</sup> it was appropriate to consider the *effect of the conduct on the consumer, the Aspen Competitor, and the Aspen Monopolist, as well as any efficiency justification, and whether the Aspen Monopolist “impaired competition in an unnecessarily restrictive way.”*<sup>83</sup>

The business justifications for a refusal to deal and/or a change in business practices were also examined in *Byars v. Bluff City News Co.*<sup>84</sup> In *Byars*, an independent contractor who distributed periodicals sued a regional distributor of those periodicals and claimed that the regional distributor’s “dirty tricks”<sup>85</sup> and refusal to continue to do business with the plaintiff was a violation of the Sherman Act.<sup>86</sup> The Sixth Circuit noted that if the regional distributor possessed monopoly power, “added obligations are imposed on the defendant

80. *Id.* at 590–93.

81. *Id.* at 603 (emphasis added).

82. The Supreme Court indicated that “predatory,” “exclusionary,” and “anticompetitive” meant the same thing, though noting that scholars favored the use of predatory. *Aspen*, 472 U.S. 585 at 602.

83. *Id.* at 605 (emphasis added). The opinion in *Aspen* has been criticized for not providing clear guidance. See Kapen, *supra* note 30, at 1062–63:

[A] serious dilemma faced by monopolists: whether to cooperate with competitors and risk a collusion suit under section 1 or refuse to cooperate and hazard a monopolization suit under section 2.

....

Dominant firms need to know the precise point at which their aggressive competition becomes exclusionary conduct and therefore illegal. Unfortunately, *Aspen Skiing* sends out an uncertain signal.

In *Aspen*, the Supreme Court stated “[i]n this Court, Ski Co. [Aspen Monopolist] does not question the validity of the joint marketing arrangement under § 1 of the Sherman Act. Thus, we have no occasion to consider the circumstances that might permit such combinations in the skiing industry.” 472 U.S. at 598, n.22. However, *Aspen* does not suggest that a monopolist must initially agree to cooperate with a competitor. The uncertainty from *Aspen* is apparent once a company with monopoly power has cooperated with a competitor and abruptly stops cooperating.

84. 609 F.2d 843 (6th Cir. 1979).

85. The allegations of dirty tricks included removing plaintiff’s periodicals from stores, covering the plaintiff’s periodicals in the store, pricing competing periodicals below cost, disparaging plaintiff and plaintiff’s financial condition, and intimidating the plaintiff’s customers. See *id.* at 854 n.30.

86. See *id.* at 846.

which would not attach in the ordinary refusal to deal context.”<sup>87</sup> However, the court concluded that a practice is predatory within the meaning of section 2 only if it is unreasonably anticompetitive.<sup>88</sup> Before remanding to the district court for more fact-finding, the Sixth Circuit added that “what should matter is not the monopolist’s state of mind, but the overall impact of the monopolist’s practices.”<sup>89</sup>

In contrast, lost revenue resulting from doing business with a company may be a valid business reason for a monopolist to stop doing business with a company.<sup>90</sup> In *High Technology Careers v. San Jose Mercury News*, despite its own advertising section, Mercury News decided to accept insert advertisements for high-technology job fairs.<sup>91</sup> After including inserts in their paper for six years, the paper decided to discontinue the practice.<sup>92</sup> The Ninth Circuit held that Mercury News should prevail in its business justification defense if it could prove that it was losing money by carrying the insert.<sup>93</sup>

In addition to a refusal of a monopolist to do business with a competitor, a monopolist may also violate section 2 if steps are taken by a monopolist to preclude third parties from doing business with a competitor. An example is *PepsiCo, Inc. v. Coca-Cola Co.*<sup>94</sup> PepsiCo alleged that Coca-Cola, with the purpose to maintain or create monopoly power in fountain-dispensed soft drinks, had “refused to deal and threatened to refuse to deal with independent foodservice distributors who wish to distribute Pepsi.”<sup>95</sup> Indeed, Coca-Cola had contracts with its distributors “prohibiting the distributor from handling PepsiCo soft drink products.”<sup>96</sup> On this basis, the district court denied Coca-Cola’s motion to dismiss, noting the claim was that “Coca-Cola’s actions effectively foreclose PepsiCo from reaching any consumers in the relevant

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87. *Id.* at 855.

88. *See id.* at 860. After remanding the case to the district court, the Sixth Circuit affirmed the district court’s finding that Bluff City was a monopolist, but had not abused its monopoly power. *See Byars v. Bluff City News Co.*, 683 F.2d 981, 983 (6th Cir. 1982).

89. *Bluff City*, 609 F.2d at 860.

90. *High Tech. Careers v. San Jose Mercury News*, 996 F.2d 987 (9th Cir. 1993). The Ninth Circuit reversed the district court’s grant of summary judgment in favor of Mercury News for a determination of whether “valid business reasons” supported the newspaper’s refusal to carry the advertising inserts. *Id.* at 990, 992.

91. *See id.* at 988–89.

92. *See id.*

93. The Ninth Circuit concluded, however, that there was a genuine issue of fact on this question, and reversed the trial court’s grant of summary judgment in favor of Mercury News. *See id.* at 992.

94. No. 98 Civ. 3282 (LAP), 1998 U.S. Dist. LEXIS 13440 (S.D.N.Y. Aug. 27, 1998).

95. *Id.* at \*55–56.

96. *Id.* at \*7.



market.”<sup>97</sup>

#### 4. A Monopolist's Restriction on the Sale of Parts

Courts may also find a violation of section 2 when a manufacturer restricts the sale of spare parts for its equipment. In *Eastman Kodak Co. v. Image Technical Services, Inc.*,<sup>98</sup> Kodak had reversed its policy of selling spare parts for Kodak copying machines and micrographic equipment to independent service organizations (ISOs).<sup>99</sup> Thereafter, Kodak only sold spare parts to self-service equipment owners.<sup>100</sup> The ISOs brought suit, asserting that by refusing to sell spare parts,<sup>101</sup> Kodak had monopolized the service and parts market in violation of section 2.<sup>102</sup>

The Supreme Court stated: “Assuming, *arguendo*, that Kodak’s refusal to sell parts to any company providing service can be characterized as a unilateral refusal to deal, its alleged sale of parts to third parties on condition that they buy service from Kodak is not.”<sup>103</sup> Furthermore, liability turned on whether there were “valid business reasons”<sup>104</sup> or “legitimate competitive reasons.”<sup>105</sup>

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97. *Id.* at \*56. See also *Lorain Journal*, 342 U.S. at 143. The district court in *PepsiCo* subsequently granted Coca-Cola summary judgment on the grounds that the actual market was far broader than PepsiCo had alleged. See *PepsiCo, Inc. v. Coca-Cola Co.*, 114 F. Supp. 2d 243 (S.D.N.Y. 2000).

98. 504 U.S. 451 (1992); see generally Daniel E. Lazaroff, *Reflections on Eastman Kodak Co. v. Image Technical Services, Inc.: Continued Confusion Regarding Tying Arrangements and Antitrust Jurisprudence*, 69 WASH. L. REV. 101 (1994).

99. See *Kodak*, 504 U.S. at 455.

100. See *id.* at 462.

101. Some of the parts were produced by Kodak, whereas other parts were made by independent original equipment manufacturers and purchased by Kodak. See *id.* at 457.

102. Kodak argued that regardless of its share of the parts market, competition in the equipment market among all manufacturers prevented Kodak from exercising monopoly power in the market for Kodak parts. See *id.* at 465. The Supreme Court, however, rejected a legal presumption against market power in a parts market because the equipment market is competitive (“The extent to which one market prevents exploitation of another market depends on the extent to which consumers will change their consumption of one product in response to a price change in another.”). *Id.* at 469. The ISOs also claimed that Kodak violated § 1 of the Sherman Act by tying the sale of spare parts to service by Kodak for that equipment. See *id.* at 455. The Supreme Court affirmed the decision of the court of appeals denying summary judgment for Kodak. See *id.* at 486.

103. *Id.* at 463 n.8 (emphasis in original).

104. *Kodak*, 504 U.S. at 482, 483 (quoting *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 605 (1985)). The Supreme Court rejected Kodak’s argument that a single brand can never constitute a relevant market under § 2, saying the product market was “determined by the choices available to Kodak equipment owners.” *Kodak*, 504 U.S. at 481–82.

105. *Id.* at 483 n.32 (“It is true that as a general matter a firm can refuse to deal with its competitors. But such a right is not absolute; it exists only if there are legitimate competitive reasons for the refusal.”). On remand, only the § 2 claims, not the tying claims, were tried before a jury which subsequently awarded damages to the ISOs on the § 2 claim in the amount of \$71.8 million,

The Ninth Circuit subsequently held that section 2 prohibits unilateral action by a monopolist “if that conduct harms the competitive process in the absence of a legitimate business justification.”<sup>106</sup> The Ninth Circuit addressed the application of section 2 to intellectual property rights and stated that section 2 “condemns exclusionary conduct that extends natural monopolies into separate markets.”<sup>107</sup> The court concluded that the scope of a copyright or patent extended to the service market, requiring that some weight be given to the “monopolies granted by intellectual property law,” including the right to refuse to license a copyrighted or patented product.<sup>108</sup>

In contrast to the Ninth Circuit’s treatment of Kodak’s parts resale

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after trebling. See *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1201, 44 U.S.P.Q.2d (BNA) 1065, 1067 (9th Cir. 1997).

106. *Id.* at 1209, 44 U.S.P.Q.2d (BNA) at 1074. For a detailed discussion of the Ninth Circuit’s opinion, see Kauffman, *supra* note 13. The Ninth Circuit then said that if the defendant supported its actions with a legitimate business justification, the plaintiff could rebut that “asserted business justification by demonstrating either that the justification does not legitimately promote competition or that the justification is pretextual.” *Kodak*, 125 F.3d at 1212, 44 U.S.P.Q.2d (BNA) at 1076.

107. *Id.* at 1216, 44 U.S.P.Q.2d (BNA) at 1080. The court was referring to copyright and patent markets and noted that the relevant market for antitrust purposes was determined by economic conditions, whereas the copyright and patent markets were determined by the patent and copyright laws. See *id.* at 1216–17, 44 U.S.P.Q.2d (BNA) at 1080. The court also said “[n]or does the right of exclusion protect an attempt to extend a lawful monopoly beyond the grant of a patent.” *Id.* at 1216, 44 U.S.P.Q.2d (BNA) at 1080. It would follow from the Ninth Circuit’s reasoning that § 2 of the Sherman Act would apply to a manufacturer attempting to extend its power to any parts of a copyrighted product not protected by copyright law.

108. *Id.* at 1217, 44 U.S.P.Q.2d (BNA) at 1080. In a footnote comprised of dicta, the Ninth Circuit indicated that there was not a distinction between an absolute refusal to license and a selective refusal to license. See *id.* at 1216 n.9, 44 U.S.P.Q.2d (BNA) at 1079 n.9. However, there may be a number of reasons why the distinction could make a difference. For instance, if a company only licensed to companies who did not pose a competitive threat and refused to license to companies that did pose a competitive threat, the selective licensing could have a significant anticompetitive effect that the courts should consider. Second, selective licensing could illustrate that the reasons for refusing to license to one company were just a pretext. The Ninth Circuit held that “a monopolist’s ‘desire to exclude others from its [protected] work is a presumptively valid business justification for any immediate harm to consumers.’” *Id.* at 1218, 44 U.S.P.Q.2d (BNA) at 1081 (quoting *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1187 (1st Cir. 1994)). However, the Ninth Circuit also concluded that such a presumptively legitimate business justification could be rebutted by showing that either “the justification does not legitimately promote competition,” *Kodak*, 125 F.3d at 1212, 44 U.S.P.Q.2d (BNA) at 1076, the intellectual property was acquired unlawfully, or the justification was pretextual. See *id.* at 1219, 44 U.S.P.Q.2d (BNA) at 1082. For instance, “Kodak’s parts manager testified that patents ‘did not cross [his] mind’ at the time Kodak began the parts policy. Further, no distinction was made by Kodak between ‘proprietary’ parts covered by tooling or engineering clauses and patented or copyrighted products.” *Id.*, 44 U.S.P.Q.2d (BNA) at 1082 (concluding there was sufficient evidence for the jury to have found that Kodak’s business justification was a pretext, and affirmed the finding of § 2 liability). See also *Telecomm Technical Servs., Inc. v. Siemens Rolm Communications, Inc.*, 66 F. Supp. 2d 1306, 1319 (N.D. Ga. 1998) (“Whether a defendant’s conduct was motivated by its proffered reasons is a question of fact, and the plaintiff can rebut the proffered reasons by demonstrating that they are pretextual.”).

practice, the Federal Circuit has generally opposed requiring manufacturers who refuse to sell patented parts or copyrighted products to other parties to explain the business justifications for such refusal. Xerox Corporation's policy of not selling patented parts or copyrighted manuals and not licensing software to ISOs who wanted to service Xerox equipment has been the subject of a line of antitrust decisions.<sup>109</sup> The Federal Circuit stated that "[i]ntellectual property rights do not confer a privilege to violate the antitrust laws."<sup>110</sup> The court "made clear that the property right granted by copyright law cannot be used with impunity to extend power in the marketplace beyond what Congress intended."<sup>111</sup> However, the Federal Circuit tempered these statements by adding that a court need not inquire into the reasons for refusing to license, "so long as that anticompetitive effect is not illegally extended beyond the statutory patent grant."<sup>112</sup> The Federal Circuit's refusal to consider business reasons, even if the plaintiff could show that the practice did not promote competition, is inconsistent with the willingness of the Supreme Court in *Kodak* to consider the business reasons for a refusal to sell replacement parts.<sup>113</sup>

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109. See *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 53 U.S.P.Q.2d (BNA) 1852 (Fed. Cir. 2000). The Federal Circuit had exclusive jurisdiction of the appeal due to the presence of patent law. See 28 U.S.C. § 1295(a) (1994); 28 U.S.C. § 1338 (1994 & Supp. IV 1998); *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1063, 46 U.S.P.Q.2d (BNA) 1097, 1100 (Fed. Cir. 1998) ("Whether conduct in the prosecution of a patent is sufficient to strip a patentee of its immunity from the antitrust laws is one of those issues that clearly involves our exclusive jurisdiction over patent cases.").

110. *In re Independent*, 203 F.3d at 1325, 53 U.S.P.Q.2d (BNA) at 1854.

111. *Id.* at 1328, 53 U.S.P.Q.2d (BNA) at 1857. The court did not address the situation where a monopolist licensed a copyrighted product, but nevertheless imposed restrictions on what the licensee could do with the product. As discussed later in this Article, a licensor may be restricted from preventing licensees from accessing and copying information contained within the product not protected by copyright law (e.g., a ban on reverse engineering), and requiring licensees to take steps which would harm competitors of the licensor.

112. *Id.* at 1327–28, 53 U.S.P.Q.2d (BNA) at 1856. The Federal Circuit declared that if a patent were acquired by fraud, or there was sham litigation concerning a patent, the presumption of a valid business justification could be rebutted. *Id.* at 1326, 53 U.S.P.Q.2d (BNA) at 1854–55. The Federal Circuit said in the absence of a showing of fraud or sham litigation by the opposing party, the court would not inquire into the patent or copyright holder's "subjective motivation for exerting his statutory rights, even though his refusal to sell or license his patented invention [or copyrighted product] may have an anticompetitive effect, so long as that anticompetitive effect is not illegally extended beyond the statutory patent [or copyright] grant." *Id.* at 1327–28, 53 U.S.P.Q.2d (BNA) at 1856.

113. *Kodak*, 504 U.S. at 484:

[T]here are other reasons to question Kodak's proffered motive of commitment to quality service; its quality justification appears inconsistent with its thesis that consumers are knowledgeable enough to lifecycle price, and its self-service policy. Kodak claims the exclusive-service contract is warranted because customers would otherwise blame Kodak equipment for breakdowns resulting from inferior ISO services. Thus, Kodak

## 5. Taking Steps to Enforce a Refusal to Deal

As a review of the relevant cases suggest, “there have been relatively few cases in which a unilateral refusal to deal has formed the basis of a successful Section 2 claim.”<sup>114</sup> In *Lorain*, the newspaper used the termination of advertising contracts and the threat of termination to coerce advertisers not to do business with the newspaper’s competitor. In *Aspen*, the Aspen Monopolist changed the pricing structure of its tickets. In *Byars*, there was a change in distribution practices. In *PepsiCo*, it was alleged Coca-Cola maintained contracts that prohibited distributors from supplying products of Coca-Cola’s competitors. And in *Kodak*, the contract ability to refuse to sell spare parts to ISOs was restricted.<sup>115</sup>

## 6. A Monopolist with Control of an Essential Facility

Widely considered the first “essential facility” case, *United States v. Terminal Railroad Ass’n of St. Louis*, involved three companies providing methods for railroads terminating on one side of the Mississippi River to cross to the other side.<sup>116</sup> The three separate terminal companies later combined to

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simultaneously claims that its customers are sophisticated enough to make complex and subtle lifecycle-pricing decisions, and yet too obtuse to distinguish which breakdowns are due to bad equipment and which are due to bad service.

The Federal Circuit affirmed the trial court’s grant of summary judgment in favor of Xerox, concluding that “Xerox’s refusal to sell or license its copyrighted works was squarely within the rights granted by Congress to the copyright holder and did not constitute a violation of the antitrust laws.” *In re Independent*, 203 F.3d at 1329, 53 U.S.P.Q.2d (BNA) at 1858.

114. *Grumman*, 36 F.3d at 1183, 32 U.S.P.Q.2d (BNA) at 1413. The court held that “the desire of an author to be the exclusive user of its original work is a presumptively legitimate business justification for the author’s refusal to license to competitors.” *Id.* at 1182, 32 U.S.P.Q.2d (BNA) at 1413. *Cf.* *Eastman Kodak Co. v. S. Photo Materials Co.*, 273 U.S. 359 (1927); *Apartment Source of Pa. v. Phila. Newspapers, Inc.*, No. 98-5472, 1999 U.S. Dist. LEXIS 4337 (E.D. Pa. Apr. 2, 1999) (discussing elements of a refusal to deal claim).

115. Assume company *A* has supplied a product to company *B* for years, but suddenly refuses to do business with company *B*. If company *A* does not take steps to prevent third parties from doing business with company *B*, the third parties may simply buy products from company *A* and sell the products to company *B*. However, if company *A* discontinues the sale of products to company *B* and contractually prevents third parties from selling products to company *B*, company *B* will be harmed in addition to potential harm on competition.

116. 224 U.S. 383 (1912). *Terminal* is more appropriately viewed as a case of illegal merger, with the remedy being the order to deal so as to eliminate the harmful effects of the merger. Areeda questioned the essential facility doctrine as a general tool of antitrust: “The essential facility doctrine requires a defendant to share its qualifying monopoly with one or more rivals. However, the purpose of the antitrust laws is not to force firms to share their monopolies, but to prevent monopolies from occurring or to break them down when they do occur.” AREEDA & HOVENKAMP, *supra* note 24, ¶ 771b. Yet, Areeda also indicates that “the ‘essential facility’ doctrine may have some relevance in regulated monopolies where it serves to limit the monopolist’s power to expand its monopoly into ‘adjacent’ unregulated (or less regulated) markets.” *Id.* ¶ 787c1. Should a monopolist who maintains its power as a result of government protection, such as copyright or patent protection, be treated any

form a single company (the "Terminal Company").<sup>117</sup> The Supreme Court held that the combination violated sections 1 and 2 of the Sherman Act.<sup>118</sup> The Court required the parties to reach an agreement for the operation of the Terminal Company as "a proper terminal association acting as the impartial agent of every line which is under compulsion to use its instrumentalities," or the Terminal Company would be disbanded.<sup>119</sup>

A subsequent essential facility case, *Otter Tail Power Co. v. United States*, examined an electric power company that sold electricity at retail in 465 cities in North and South Dakota and Minnesota.<sup>120</sup> The power company had the only available lines for the wholesale transmission of electricity to municipal systems where the electricity was sold at retail.<sup>121</sup> As the franchises for Otter Tail's retail distribution systems expired, Otter Tail refused to sell power to, or transmit power for, municipalities wanting to establish their own retail distribution systems. Otter Tail instead initiated litigation to delay or stop such municipal systems from operating retail distribution systems and invoked "provisions in its transmission contracts with several other power suppliers . . . ."<sup>122</sup> The Supreme Court observed that there "were no engineering factors that prevented Otter Tail from selling power at wholesale to those towns that wanted municipal plants."<sup>123</sup> Because "Otter Tail's refusals to sell at wholesale . . . were solely to prevent municipal power systems from eroding its monopolistic position[.]" the Supreme Court concluded that Otter Tail had illegally monopolized the retail distribution of electric power in violation of section 2 of the Sherman Act.<sup>124</sup>

A more contemporary essential facility case came before the Seventh Circuit in *MCI Communications Corp. v. AT&T*.<sup>125</sup> The dispute centered around the denial of interconnections by AT&T.<sup>126</sup> The Seventh Circuit found these interconnections were essential facilities,<sup>127</sup> was unable to find a

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differently than a regulated utility?

117. See *Terminal*, 224 U.S. at 394.

118. See *id.* at 409.

119. *Id.* at 410.

120. 410 U.S. 366 (1973).

121. See *id.* at 368.

122. *Id.* However, initiating litigation and invoking contractual provisions to prevent third parties from supplying electricity to municipalities indicates that *Otter Tail* was not a simple refusal to deal case.

123. *Id.* at 378.

124. See *id.* (emphasis added).

125. 708 F.2d 1081 (7th Cir. 1983).

126. See *id.* at 1092.

127. See *id.* at 1132-33. The court listed the following elements for essential facility under §

“legitimate business or technical reason” for such denial, and therefore held that AT&T violated section 2.<sup>128</sup>

In contrast, an essential facility was not found in *David L. Aldridge Co. v. Microsoft Corp.*<sup>129</sup> Aldridge argued that making a vital product, in this case an operating system, incompatible with the competitor’s product violated the principle of the essential facility doctrine.<sup>130</sup> Aldridge, a manufacturer of a disk cache program,<sup>131</sup> claimed that Microsoft’s implementation of Windows 95, which included an effective substitute for existing disk cache programs, violated the essential facilities doctrine by disabling and disparaging competing disk cache programs and by “not disclosing design details about Windows95 [sic] to disk cache developers.”<sup>132</sup> The court said the essential facility doctrine “imposes a duty on the owner of an essential facility to *open it to competitors on a nondiscriminatory basis*.”<sup>133</sup> However, the court added that “[a] facility is essential under the antitrust laws only when it is *vital* to both the plaintiff’s individual competitive viability and *the viability of the market in general*.”<sup>134</sup> The court concluded that Aldridge had not shown a

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2: “(1) control of the essential facility by a monopolist; (2) a competitor’s inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility.” *Id.* (concluding that AT&T’s refusal to provide interconnections constituted an act of monopolization in violation of § 2 of the Sherman Act). *Cf.* *City of Anaheim v. S. Cal. Edison Co.*, 955 F.2d 1373, 1380 (9th Cir. 1992) (finding that element 4 in the *MCI* test, “basically raises the familiar question of whether there is a legitimate business justification for the refusal to provide the facility . . .”).

128. *MCI*, 708 F.2d at 1133.

129. 995 F. Supp. 728 (S.D. Tex. 1998). This Article does not discuss the product disparagement claim made by Aldridge under § 2, except to note that the court concluded Aldridge had failed to overcome the “strong presumption that any damage caused by Microsoft’s allegedly disparaging messages was *de minimis*.” *Id.* at 751 (emphasis added).

130. *See id.* at 756.

131. The court explained:

An application program such as a word processor will often direct the operating system to download (“write”) or upload (“read”) data from the computer’s hard or floppy disk. . . . [R]ead-write operations occur more slowly because disk drives are mechanical devices that can only move so quickly, while the rest of a computer’s operations occur electrically and are theoretically only limited by the speed of light . . . .

Disk caches solve this problem by intercepting information that the operating system is reading from or writing to the computer’s hard disk and temporarily using vacant portions of the computer’s RAM [random access memory] as a pseudo-disk. This allows the operating system to perform the read-write operations electrically instead of using the hard disk.

*Id.* at 733.

132. *Id.* at 751.

133. *Id.* (emphasis added) (citing *Ferguson v. Greater Pocatello Chamber of Commerce, Inc.*, 848 F.2d 976, 983 (9th Cir. 1988); *Hendricks Music Co. v. Steinway, Inc.*, 689 F. Supp. 1501, 1509 (N.D. Ill. 1988)).

134. *Aldridge*, 995 F. Supp. at 753 (emphasis added).

violation of section 2 because, among other reasons, Windows 95 was not shown to be an essential facility.<sup>135</sup>

The foregoing examination illustrates that the essential facility doctrine is simply one category of a refusal to deal. Despite its theoretical appeal, the essential facility test should have limited applicability because the test focuses on the status of the monopolist rather than on the monopolist's actions. If through the design of a superior product or historical accident a company gains a monopoly, regardless of whether it is an essential facility, requiring a company to do business with others would seem to contradict the test for illegal monopolization set forth in *Grinnell*.<sup>136</sup> However, regardless of whether a monopolist controls an essential facility, or merely has monopoly power in a product, the presence of a degree of control should raise a red flag and trigger careful consideration of how the monopolist gained and maintains control. In *Terminal Railroad*,<sup>137</sup> antitrust relief was justified because the defendant gained control of the essential facilities through a series of acquisitions that were anticompetitive. Conversely, in *Otter Tail*<sup>138</sup> and *MCI*,<sup>139</sup> the defendants gained monopoly positions through government franchises—unique situations that justified an exception to the general right of businesses to choose not to do business with others.

Absent special circumstances, refusals to deal which involve important or essential facilities should be evaluated in the same manner as other refusals to deal. That is, it must be determined whether the monopolist is taking steps beyond simply refusing to deal to help insure that the “target” cannot, as a practical matter, gain use of the monopolist's product indirectly. This point is underscored by *Aldridge*, which could have been decided simply on the ground that Windows 95 was a significant product improvement and that Microsoft had not taken any steps to prevent others from acquiring and using Aldridge's program.<sup>140</sup>

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135. See *id.* (“Aldridge has not produced any evidence that Cache86 cannot run on other operating systems in the primary market, such as IBM's OS/2 system.”).

136. The test for monopolization is “the willful acquisition or maintenance of [monopoly] power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.” 384 U.S. 563 at 570–71 (1966).

137. 224 U.S. 383 (1912).

138. 410 U.S. 366 (1973).

139. 708 F.2d 1081 (7th Cir. 1983).

140. “The antitrust laws do not require a competitor to maintain archaic or outdated technology; even monopolists may improve their products.” *Aldridge*, 995 F. Supp. at 753. “Aldridge offers no evidence to show that Windows95 [sic] disables Cache86, and nothing in the messages [on the screen] prevents a user from employing Cache86 in DOS-compatibility mode or from contacting Aldridge for an updated version of the program.” *Id.* at 756.

### C. The Microsoft Antitrust Litigation

#### 1. The Monopolization Claims in the Microsoft Antitrust Litigation

On May 18, 1998, the DOJ filed a complaint<sup>141</sup> alleging that Microsoft had illegally tied two products together—its Windows operating system and Internet Explorer—in violation of section 1 of the Sherman Act. In addition, the DOJ alleged that Microsoft had monopoly power in Intel-compatible operating systems and was guilty of illegal monopolization by engaging in a variety of anticompetitive conduct. The DOJ claimed that Microsoft's anticompetitive conduct included: contractual restrictions on modifications that original equipment manufacturers (OEMs) could make to the "boot-up" sequence and first screen on the computers and exclusive dealing agreements with Internet access providers (IAPs) and Internet content providers (ICPs).<sup>142</sup>

Microsoft's Motion for Summary Judgment was denied.<sup>143</sup> The court found that conduct by a monopolist that violated section 1 of the Sherman Act necessarily violated section 2,<sup>144</sup> but added that conduct which fell short of violating section 1 could still violate section 2<sup>145</sup> if the conduct "*impair[s] competition in an unnecessarily restrictive way.*"<sup>146</sup> Judge Jackson stated that if "*a defendant maintains substantial market power, his activities are examined through a special lens:* Behavior that might otherwise not be of

141. The Attorneys General of 20 states simultaneously filed separate antitrust suits against Microsoft in the same court raising essentially the same issues as the DOJ's complaint, with the exception of the claim of monopoly leveraging in the complaint filed by the Attorneys General, on which claim the district court granted Microsoft summary judgment. See *Microsoft*, 1998 U.S. Dist. LEXIS 14231, at \*86. Due to their similarity of the complaints filed by the Attorneys General with the complaint filed by the DOJ, the claims of the Attorneys General are not discussed in this Article.

142. See *id.* at \*44-45.

143. See *id.* at \*91. Microsoft did prevail on its motion for summary judgment on the states' monopoly leveraging claims. See *id.* at \*86.

144. See *id.* at \*72.

145. Compare Shane M. Greenstein, *Comment on Ordoover and Willig*, in DIGITAL MARKETPLACE, *supra* note 6, at 129, 135:

A sound competition policy should, therefore, prevent large established firms with unique assets, such as Microsoft, from shielding themselves from the sharp spur of competitive threats, even those with a low probability of succeeding. . . . Microsoft, or any other large firm in this industry, deserves additional scrutiny that we do not apply to small firms.

with Carstensen, *supra* note 14, at 589:

Condemning conduct as in itself unlawful because of the monopoly status of the actor, even though it would be rational for other firms, would involve the courts in acting as regulatory authorities with respect to firms fitting a less than precise definition—monopoly—where neither Congress nor the states had felt the public interest required direct regulation of conduct.

146. *Microsoft*, 1998 U.S. Dist. LEXIS 14231, at \*73 (emphasis added) (quoting *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 605 (1985)).



concern to the antitrust laws—or that might even be viewed as procompetitive—can take on exclusionary connotations when practiced by a monopolist.”<sup>147</sup>

## 2. Findings of Fact

In the Findings of Fact issued after the trial,<sup>148</sup> Judge Jackson gave considerable weight to what he referred to as the “applications barrier to entry” into the operating system market.<sup>149</sup> He explained that “[u]sers do not want to invest in an operating system until it is clear that the system will support generations of applications that will meet their needs” and added that “developers do not want to invest in writing or quickly porting applications for an operating system until it is clear that there will be a sizeable and stable market for it.”<sup>150</sup> In addition, he noted that current users of computers with an Intel-compatible PC operating system were not likely to change to a computer with a different operating system because “switching to a new system would require these users to scrap the investment they have made in applications, training, and certain hardware.”<sup>151</sup>

Judge Jackson also found that Microsoft took numerous actions in order to preserve its monopoly in Intel-compatible PC operating systems. For instance, maintaining the applications barrier to entry “was the main force driving its decision to price [Internet Explorer] at zero.”<sup>152</sup> Microsoft attached “to a Windows license conditions that restrict[ed] the ability of OEMs to promote software that Microsoft believe[d] could weaken the applications barrier to entry.”<sup>153</sup> In addition, “Microsoft consistently pressured IBM to reduce its support for software products that competed with Microsoft’s offerings, and it used its monopoly power in the market for Intel-compatible PC operating systems to punish IBM for its refusal to cooperate,” in part by

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147. *Microsoft*, 1998 U.S. Dist. LEXIS 14231, at \*73 (emphasis added) (quoting *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 504 U.S. 451, 488 (1992) (Scalia, J., dissenting)).

148. *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9 (D.D.C. 1999).

149. See also Steven C. Salop, *Using Leverage to Preserve Monopoly*, in *DIGITAL MARKETPLACE*, *supra* note 6, at 93, 95:

Microsoft’s goal may not be focused so much on creating a second monopoly in browsers as preserving its operating system monopoly by raising barriers to entry into that market. . . . [T]his exclusionary effect might be achieved by destroying Netscape and other browsers and thereby forcing a future operating system entrant to simultaneously enter the browser market. This need to enter two markets simultaneously may be more difficult to coordinate successfully and, hence, less likely to be attempted.

150. *Microsoft*, 84 F. Supp. 2d at 18.

151. *Id.*

152. *Id.* at 44.

153. *Id.* at 27.

charging IBM higher prices for Windows than it did manufacturers who cooperated with Microsoft.<sup>154</sup> After Netscape refused to enter into the proposed special relationship with Microsoft, Microsoft withheld information from Netscape on the Windows' APIs for three months.<sup>155</sup> Then, in order to prevent Netscape's Navigator from weakening the applications barrier to entry, Microsoft "imposed restrictions—at first contractual and later technical—on OEMs' and end users' ability to remove its browser from its operating system."<sup>156</sup> Finally, Microsoft temporarily required ICPs "to ensure that their content appeared degraded when viewed with Navigator rather than Internet Explorer."<sup>157</sup>

Judge Jackson also found that Microsoft took steps to ensure that consumers were presented with Microsoft-approved content on "Windows' valuable desktop 'real estate.'"<sup>158</sup> For instance, Microsoft prohibited OEMs from "removing any icons, folders, or 'Start' menu entries that Microsoft itself had placed on the Windows desktop . . . [and] prohibited OEMs from adding icons or folders to the Windows desktop that were not similar in size and shape to icons supplied by Microsoft."<sup>159</sup> Microsoft's argument that the restrictions were necessary to protect the "quality and consistency of Windows after the code leaves Microsoft's physical control, but before PC consumers first begin to experience the product[]" was flatly rejected.<sup>160</sup> Instead, Judge Jackson concluded that the modifications Microsoft prohibited "would not compromise the quality or consistency of Windows any more than the modifications that Microsoft currently permits."<sup>161</sup>

### 3. Conclusions of Law

Judge Jackson's Conclusions of Law hit the general target, but are off the

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154. *Id.* at 43.

155. *See Microsoft*, 84 F. Supp. 2d at 33. The court had earlier defined application programming interfaces (APIs), as the "synapses at which the developer of an application can connect to invoke pre-fabricated blocks of code in the operating system. These blocks of code in turn perform crucial tasks, such as displaying text on the computer screen." *Id.* at 12.

156. *Id.* at 49. The court found "Microsoft was apprehensive that the APIs exposed by middleware technologies [such as Netscape Navigator] would attract so much developer interest, and would become so numerous and varied, that there would arise a substantial and growing number of full-featured applications that relied largely, or even wholly, on middleware APIs." *Id.* at 28.

157. *Id.* at 91.

158. *Id.* at 45.

159. *Id.* at 61.

160. *Microsoft*, 84 F. Supp. 2d at 64.

161. *Id.* The court added: "to the extent that certain OEM modifications did threaten to impair the quality and consistency of Windows, Microsoft's response has been more restrictive than necessary to abate the threat." *Id.*

mark.<sup>162</sup> Judge Jackson adopted as the test for exclusionary conduct,<sup>163</sup> whether Microsoft's conduct "restricted significantly, or threatens to restrict significantly, the ability of other firms to compete in the relevant market on the merits of what they offer customers."<sup>164</sup> He added, however, that if "the defendant comes forward with specific, pro-competitive business motivations that explain the full extent of its exclusionary conduct," the monopolist is not liable for such conduct.<sup>165</sup>

The exclusionary conduct test adopted by Judge Jackson failed to distinguish between illegal anticompetitive conduct and legal conduct. Judge Jackson said that if a monopolist:

[C]onsciously antagonized its customers by making its products less attractive to them—or if it incurred other costs, such as large outlays of development capital and forfeited opportunities to derive revenue from it—with no prospect of compensation other than the erection or preservation of barriers against competition by equally efficient firms, the Court may deem the defendant's conduct "predatory."<sup>166</sup>

Judge Jackson failed to note that in some cases, innocent product improvements can antagonize customers<sup>167</sup> and create barriers to entry.

In addition, Judge Jackson failed to articulate the subtle differences between the inducements Microsoft provided for using Internet Explorer and the restrictions Microsoft placed on the ability of others to use Netscape's Navigator. For instance, Jackson stated that "it is fair to conclude that these inducements *and* restrictions contributed significantly to the drastic changes that have in fact occurred in Internet Explorer's and Navigator's respective usage shares."<sup>168</sup> Yet, inducements to use or purchase a particular product, such as discounts, appear to be competition on the merits as opposed to restrictions on the use of a competing product.

Judge Jackson noted that "Microsoft thus set out to maximize Internet

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162. Of course, Microsoft challenges the accuracy of many of the Findings of Fact, though this Article simply accepts the Findings of Fact as true solely for the purpose of discussing what actions by a monopolist should be considered anticompetitive.

163. *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 54 U.S.P.Q.2d (BNA) 1365 (D.D.C. 2000). The court began its analysis of anticompetitive conduct by restating the *Grinnell* formulation as "once it is proved that the defendant possesses monopoly power in a relevant market, liability for monopolization depends on a showing that the defendant used anticompetitive methods to achieve or maintain its position." *Microsoft*, 87 F. Supp. 2d at 37, 54 U.S.P.Q.2d (BNA) at 1368.

164. *Id.*, 54 U.S.P.Q.2d (BNA) at 1368.

165. *Id.* at 38, 54 U.S.P.Q.2d (BNA) at 1369.

166. *Id.*, 54 U.S.P.Q.2d (BNA) at 1369.

167. For instance, a television manufacturer who discontinues its current television models and switches to the production of more expensive high definition televisions.

168. *Microsoft*, 87 F. Supp. 2d at 41, 54 U.S.P.Q.2d (BNA) at 1372 (emphasis added).

Explorer's share of browser usage at Navigator's expense."<sup>169</sup> While this statement is not erroneous, attempts to maximize market share at the expense of a competitor are not illegal.<sup>170</sup> Instead of examining the objective, an analysis should be undertaken of whether the chosen methods to achieve the objective are illegal.<sup>171</sup>

Judge Jackson stated that a copyright owner may not use copyright law to threaten competition,<sup>172</sup> primarily citing authorities which addressed the use of intellectual property rights to expand into another product market. Though refusing to license a copyrighted product is rarely a violation of antitrust law, as Judge Jackson observed, Microsoft could also have been attempting to expand its power into areas of the product not covered by its intellectual property rights.<sup>173</sup>

With respect to IAPs, Judge Jackson concluded that "in exchange for efforts to upgrade existing subscribers to client software that came bundled with Internet Explorer instead of Navigator, Microsoft granted rebates—and in some cases made outright payments—to those same IAPs."<sup>174</sup> This behavior appears to be price competition on the merits.

Judge Jackson found "no valid reasons to justify the full extent of Microsoft's exclusionary behavior in the IAP channel."<sup>175</sup> He added that "[a] *desire* to limit free riding on the firm's investment in consumer-oriented features . . . can, in some circumstances, qualify as a *procompetitive business motivation*; but that motivation does not explain the full extent of the restrictions that Microsoft actually imposed upon IAPs."<sup>176</sup>

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169. *Id.* at 39, 54 U.S.P.Q.2d (BNA) at 1370.

170. *See* AREEDA & HOVENKAMP, *supra* note 24, ¶ 601 ("[T]he aggressive firm always 'intends' to harm rivals if injury to rivals is a consequence of one's own increase in market share."). Numerous questions posed by the D.C. Circuit indicate that the court was concerned about the distinction between encouraging and restricting competition. *See generally* Transcript of Oral Arguments before the D.C. Circuit, *U.S. v. Microsoft Corp.*, 2000 U.S. App. LEXIS 25584 (D.C. Cir. Feb. 26–7, 2001) (No. 00-5212), *available at* <http://www.microsoft.com/presspass/legalnews.asp>.

171. Specific intent is an element in a case examining an attempt to monopolize, but conclusions about Microsoft's purpose are located in the monopolization portion of the Conclusions of Law and seem irrelevant to that part of the Microsoft Conclusions of Law. Presumably, any monopolist wants to maintain its monopoly; in determining whether antitrust laws have been violated, it is the method undertaken by the monopolist to maintain the monopoly which is crucial.

172. *See Microsoft*, 87 F. Supp. 2d at 40, 54 U.S.P.Q.2d (BNA) at 1371.

173. *See id.*, 54 U.S.P.Q.2d (BNA) at 1371 ("Microsoft has presented no evidence that the contractual (or the technological) restrictions . . . derive from any of the enumerated rights explicitly granted to a copyright holder under the Copyright Act.").

174. *Id.* at 41, 54 U.S.P.Q.2d (BNA) at 1372.

175. *Id.* at 42, 54 U.S.P.Q.2d (BNA) at 1372.

176. *Id.* at 42, 54 U.S.P.Q.2d (BNA) at 1372 (emphasis added). Judge Jackson failed to explain the significance of either a pro-competitive or anticompetitive business motivation to a monopolization charge.

"Microsoft then induced developers to use its implementation of Java rather than Sun-compliant ones."<sup>177</sup> Yet such inducements could reflect Microsoft's attempt simply to promote its own product.<sup>178</sup> On the other hand, the reference to Microsoft's "subterfuge"<sup>179</sup> in connection with Java, and to developers who "unwittingly write Java applications that would run only on Windows,"<sup>180</sup> indicates that Judge Jackson was relying, in part, on Microsoft's actions which did not constitute competition on the merits to generate the Conclusions of Law.

The Conclusions of Law, in short, fail to articulate the manner in which the court distinguished conduct that was anticompetitive from that which was not.<sup>181</sup> Judge Jackson's failure to distinguish between competitive and anticompetitive conduct is apparent from his statement that "Microsoft paid vast sums of money, and renounced many millions more in lost revenue every year, in order to induce firms to take actions that would help enhance Internet Explorer's share of browser usage at Navigator's expense."<sup>182</sup>

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177. *Microsoft*, 87 F. Supp. 2d at 43, 54 U.S.P.Q.2d (BNA) at 1373.

Microsoft essentially altered the Java Technology to create a programming environment that enhances a software developer's ability to create Windows-specific applications using an extended form of the Java language. . . . [T]here is insufficient evidence to suggest that Microsoft continues to use its economic power to unfairly force software developers into buying its tools products to the exclusion of competitive tools products or using its development environment to the exclusion of Sun's standard Java programming environment.

*Sun Microsystems, Inc. v. Microsoft Corp.*, 87 F. Supp. 2d 992, 1002 (N.D. Cal. 2000). Microsoft was subsequently enjoined after the court found Microsoft's advertising to be misleading. *See id.* at 1006.

178. It would appear that, without more, Microsoft's attempts at such promotion should constitute competition on the merits.

179. *Microsoft*, 87 F. Supp. 2d at 43, 54 U.S.P.Q.2d (BNA) at 1373. In discussing Microsoft's response to the "Java Threat," the Microsoft Conclusions of Law did not mention the suit filed by Sun against Microsoft. In *Sun*, the district court concluded that Sun had a reasonable likelihood of success on its unfair competition claim against Microsoft in connection with Microsoft advertising that its version of Java Technology was the official version and complied with the specifications for Java Technology. *See Sun*, 87 F. Supp. 2d at 1003. False advertising was not deemed to constitute competition on the merits. Perhaps evidence of false advertising was not presented to Judge Jackson, or perhaps his "reference" to subterfuge included false advertising.

180. *Microsoft*, 87 F. Supp. 2d at 43, 54 U.S.P.Q.2d (BNA) at 1373.

181. The interest of some judges of the D.C. Circuit in drawing the line was apparent from the questions solicited at oral argument. *See generally* Transcript of Oral Arguments before the D.C. Circuit, *U.S. v. Microsoft Corp.*, 2000 U.S. App. LEXIS 25584 (D.C. Cir. Feb. 26-7, 2001) (No. 00-5212), available at <http://www.microsoft.com/presspass/legalnews.asp>.

182. *Microsoft*, 87 F. Supp. 2d at 44, 54 U.S.P.Q.2d (BNA) at 1374. Spending large sums of money to try to increase Internet Explorer's market share should not be considered anticompetitive conduct. Judge Jackson suggests that the large expenditure was neither "profit-maximizing" nor anticompetitive. Yet activities that do not maximize profits should not necessarily be deemed anticompetitive. Companies may infuse huge sums of capital into advertising to increase market share or to improve product safety without maximizing profits. Truthful advertising, regardless of

*D. The Intel Antitrust Litigation*

Intergraph manufactured computer-aided designing and drafting “workstations”<sup>183</sup> based on the “Clipper” microprocessor.<sup>184</sup> While considering switching to a new microprocessor, Intergraph was assured by Intel Corporation, the world’s largest manufacturer of microprocessors, that Intel’s central processing unit (CPU) satisfied the power and speed requirements for Intergraph’s workstations.<sup>185</sup> In addition, Intel agreed to supply Intergraph with CPUs “on fair and reasonable terms.”<sup>186</sup> As a result, Intergraph discontinued use of Clipper microprocessors and began exclusively using Intel microprocessors.<sup>187</sup>

Intel initially utilized an open architecture system that allowed other manufacturers to produce compatible computers and microprocessors. In 1997, Intel adopted a closed, or proprietary, architecture system that was incompatible with, and could not be used by, other hardware systems unless the manufacturer entered into a contract or license with Intel.<sup>188</sup>

Prior to the adoption of the proprietary architecture system, Intel “regularly provided Intergraph with CPUs, technical information, and support essential for Intergraph to be competitive in its chosen field,” including design assistance and early samples of Intel CPUs for testing.<sup>189</sup> After adopting the new system, Intel attempted to obtain the patent to Intergraph’s Clipper microprocessor.<sup>190</sup> After failing to reach an agreement, Intel terminated the confidentiality/nondisclosure agreements<sup>191</sup> with Intergraph and demanded the return of all proprietary information Intel had provided.<sup>192</sup> Intergraph

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whether the efforts are successful, and improving product safety should not be considered anticompetitive conduct.

183. *Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255, 1263 (N.D. Ala. 1998), *vacated by* 195 F.3d 1346, 52 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 1999).

184. *Intergraph*, 3 F. Supp. 2d at 1263.

185. *Id.* at 1264.

186. *Id.* On the other hand, Intergraph conceded that Intel had not promised “any continued or ‘perpetual business relationship’ with Intergraph.” *Id.* at 1264 n.24.

187. *Id.* at 1264.

188. *Id.* at 1261.

189. *Intergraph*, 3 F. Supp. 2d at 1269.

190. *See id.* at 1267–68. In 1997, Intergraph had claimed to OEM customers of Intel that Intel microprocessors infringed the Clipper patent. *Id.* at 1266–67. Intergraph subsequently sued Intel for patent infringement. *Id.* at 1266–67. It appears that Intel initially terminated the agreements before the litigation, retracted the termination, and then terminated the agreements again after Intergraph sued Intel. *See id.* at 1268.

191. The confidentiality/nondisclosure agreements set forth the manner by which proprietary information had been transferred by Intel to Intergraph.

192. *Intergraph*, 3 F. Supp. 2d at 1267–68. There was no evidence that Intergraph had misused any of this confidential information. *See id.* at 1266.

subsequently sued Intel for the withholding of information.<sup>193</sup>

The district court found that Intel had monopoly power in the high performance CPU market and the Intel CPU market worldwide.<sup>194</sup> Intel's power forced Intergraph to use Intel microprocessors and receive advance information from Intel if Intergraph was to compete in the high-end workstation market.<sup>195</sup> The denial of advance information and other assistance from Intel would "seriously impair Intergraph's competitive ability, thereby severely injuring Intergraph as a competitor and injuring competition generally."<sup>196</sup> Intergraph prevailed on its demand for a preliminary injunction

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193. *Id.* at 1268, n.36 (stating that within hours of Intergraph's suit, Intel filed an action in California asking for a declaratory judgment that Intergraph's patents were invalid). On June 8, 1998, the FTC sued Intel for abusing its monopoly power in violation of § 5 of the Trade Commission Act, alleging:

Intel has entrenched, and threatens to continue entrenching, its monopoly power in the relevant lines of commerce by, among other things, denying or threatening to deny technical information about Intel microprocessor products to Intel customers [specifically Digital Equipment Corp., Intergraph Corp., and Compaq Computer Corp.] who have developed and patented innovations in microprocessor technology, as a means of coercing those customers into licensing their innovations to Intel.

FTC Complaint at ¶ 11, *In re Intel Corp.* (No. 9288), available at <http://techlawjournal.com/agencies/ftc-intc/80608ftc.htm>. In March 1999, the FTC approved a Consent Order with Intel. Among other things, under the Consent Decree, Intel is prohibited for a period of 10 years from

(1) impeding, altering, suspending, withdrawing, withholding or refusing to provide access by any microprocessor customer to AT [advanced technical] Information for reasons related to an Intellectual Property Dispute with such customer if at the time of such IP Dispute such customer is receiving AT Information from Respondent or (2) basing any supply decisions for general purpose microprocessors upon the existence of an IP Dispute.

Agreement Containing Consent Order at II.A., *In re Intel Corp.* (No. 9288), available at <http://www.ftc.gov/os/1999/9903/d09288intelagreement.htm>. These provisions are subject to an exception if the specific microprocessor involved is alleged by the customer to infringe a patent, copyright, or trade secret of the customer. See generally *FTC Staff, Intel Withdraw Case from ALJ*, Antitrust & Trade Reg. Daily (BNA) (Mar. 9, 1999). For detailed discussions of the FTC proceedings against Intel and the settlement order, see Jeff Loew, *Sherman Act Violations: In re Intel Corp.*, 15 BERKELEY TECH. L.J. 333 (2000); Randal C. Picker, *Does Regulation Promote Efficiency in Network Industries? Regulating Network Industries: A Look at Intel*, 23 HARV. J.L. & PUB. POL'Y 159 (1999).

194. See *Intergraph*, 3 F. Supp. 2d at 1273-74.

195. See *id.* at 1263.

196. *Id.* at 1270. Intel continued to sell products to Intergraph, but on terms other than those by which Intel had been selling the products to other companies. The difference in the terms of sale could be viewed as unrelated to the quality of the product, but rather just an attempt to hinder one of Intel's competitors in the workstation market—a competitor who had refused to help Intel protect its monopoly power in microprocessors. Other pricing practices have also been considered anticompetitive within the meaning of § 2. Similarly, the differences in terms of sale Intel made available to Intergraph also could have been left to the trier of fact to determine if Intel's pricing practices were anticompetitive. It is apparent how the denial of assistance would injure Intergraph, but it is not apparent how competition would be injured by such a denial.

as the court found that it was likely that Intel had violated sections 1 and 2 of the Sherman Act.<sup>197</sup>

*E. Preservation of Intel's Monopoly in Microprocessors and its Contracts with Third Parties Impeded Intergraph*

1. The Microprocessor Market

Intel appealed the preliminary injunction and the Federal Circuit subsequently reversed the district court.<sup>198</sup> In doing so, the Federal Circuit erroneously disregarded the actions taken by Intel to preserve its monopoly in microprocessors. Notably, the Federal Circuit stated that "Intel's market power in the microprocessor market is irrelevant to the issues of this case, all of which relate to the effect of Intel's actions on Intergraph's position in its own [workstation] markets."<sup>199</sup> This remark came despite the district court's conclusion that Intel willfully maintained its monopoly in two microprocessor markets.<sup>200</sup> The district court's determination was supported by the finding that Intel had "induced Intergraph to discontinue the use and further

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The purpose of the [Sherman] Act is not to protect businesses from the working of the market; it is to protect the public from the failure of the market. The law directs itself not against conduct which is competitive, even severely so, but against conduct which unfairly tends to destroy competition itself.

*Spectrum Sports*, 506 U.S. at 458.

197. For a critique of the district court's decision, see W. Greg Papciak, *II. Antitrust: 1. Sherman Act Violations: b. Essential Facilities Doctrine: Intergraph Corp. v. Intel Corp.*, 14 BERKELEY TECH. L.J. 323 (1999). However, Intergraph's victory was short lived as the Federal Circuit vacated the injunction and reversed the district court's decision. See *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346, 52 U.S.P.Q.2d (BNA) 1641 (Fed. Cir. 1999). On remand, the district court granted summary judgment in favor of Intel and dismissed all remaining antitrust claims with prejudice. See *Intergraph Corp. v. Intel Corp.*, 88 F. Supp. 2d 1288, 54 U.S.P.Q.2d (BNA) 1431 (N.D. Ala. 2000). In fashioning their decision, the Federal Circuit relied on *City of Groton v. Conn. Light & Power Co.*, 662 F.2d 921 (2d. Cir. 1981), for the proposition that each claim had to be analyzed individually. See *Intergraph*, 195 F.3d at 1367, 52 U.S.P.Q.2d (BNA) at 1656. However, in *Groton*, after analyzing the claims separately, the Second Circuit viewed the "proof as a whole," but found "no general intent to impede the municipalities' competitive position or to enhance the defendants' . . . alleged monopoly power." *Groton*, 662 F.2d at 935. In *Groton*, the Second Circuit recognized the validity of the principle set forth in *Cont'l Ore Co. v. Union Carbide & Carbon Corp.*, that "[i]n cases such as this, plaintiffs should be given the full benefit of their proof without tightly compartmentalizing the various factual components and wiping the slate clean after scrutiny of each." 370 U.S. 690, 698-99 (1962).

198. *Intergraph*, 195 F.3d 1346, 52 U.S.P.Q.2d (BNA) 1641.

199. *Id.* at 1354, 52 U.S.P.Q.2d (BNA) at 1646.

200. The district court held that the facts established "the willful acquisition or maintenance of monopoly power." *Intergraph*, 3 F. Supp. 2d at 1276. Indicating a concern regarding the maintenance rather than the acquisition of monopoly power, the court added that it was "not necessary for Intergraph to establish that Intel acquired its monopoly unlawfully. It is enough to show that Intel has misused or maintained that monopoly . . ." *Id.* at 1277.



development of its then competitive Clipper microprocessor" and "attempted to coerce Intergraph into relinquishing its intellectual property rights" in microprocessors as a condition of being able to compete in the workstation market.<sup>201</sup> The Federal Circuit rejected Intergraph's claim because it found that Intergraph and Intel did not compete in the microprocessor market<sup>202</sup> despite the appearance that the elements of a monopolization claim set forth by the Supreme Court in *Grinnell* were met.<sup>203</sup>

The Federal Circuit's conclusion is misguided in its competition analysis. First, a monopolization claim does not require a competitive relationship between the plaintiff and the monopolist.<sup>204</sup> Second, standing requirements are satisfied by a potential competitive relationship.<sup>205</sup> Finally, Intel and Intergraph competed in the development of technology until Intel excluded Intergraph.<sup>206</sup>

201. *Id.* at 1276.

202. *See Intergraph*, 195 F.3d at 1355, 52 U.S.P.Q.2d (BNA) at 1647.

203. *See Grinnell*, 384 U.S. at 570-71.

204. *See Fishman v. Estate of Wirtz*, 807 F.2d 520, 531 (7th Cir. 1987) ("We know of no rule that states that the parties must be in head-to-head competition *in* the relevant market (as opposed to head-to-head competition *for* the relevant market) before the antitrust laws will apply.") (emphasis in original).

205. Intergraph does not appear to have relinquished its rights to the Clipper patent, making Intergraph a potential competitor to Intel in the microprocessor market. That Intergraph was only a potential competitor to Intel's microprocessor market would not deprive Intergraph of standing to pursue the monopolization claim. *See Angelico*, 184 F.3d at 274 ("[A] potential competitor shut out of a market by a purported group boycott, had alleged the type of injury protected by the antitrust laws.") (discussing its earlier decision in *Brader v. Allegheny Gen. Hosp.*, 64 F.3d 869 (3d Cir. 1995)).

206. The Federal Circuit appeared to reject technology development as a market, stating "the patent grant is a legal right to exclude, not a commercial product in a competitive market." *Intergraph*, 195 F.3d at 1355, 52 U.S.P.Q.2d (BNA) at 1647. Yet the 1995 Licensing Guidelines recognize technology markets as relevant markets for purpose of antitrust law. *See LICENSING GUIDELINES*, *supra* note 11, § 3.2. Moreover, at least two federal courts have expressly recognized technology markets for purposes of antitrust analysis. *See In re Pabst Licensing*, No. 1298; Ref. C.A. 99-3118, 2000 U.S. Dist. LEXIS 12076, at \*18-20 (E.D. La. Aug. 11, 2000); *Discovision Assocs. v. Disc. Mfg.*, 42 U.S.P.Q.2d (BNA) 1749 (D. Del. 1997). The General Counsel of the FTC, in her November 15, 1999 remarks before the Israel International Antitrust Conference, stated:

[O]ne can identify three distinct upstream markets in the *Intel* cases: (1) the existing market for CPU products; (2) the market for current CPU technology; and (3) the innovation market in which future CPU technology is being developed.

The Federal Circuit looked only at the first of these, the current CPU goods market, and only at the competitive significance in that market of *Intergraph*, which, as it noted, had withdrawn from that market with no intention of re-entry. The FTC investigation looked more broadly at all three markets, and had the benefit of facts and evidence relating to other competitors.

Debra A. Valentine, Abuse of Dominance in Relation to Intellectual Property: U.S. Perspectives and the Intel Cases (Nov. 15, 1999), available at <http://www.ftc.gov/speeches/other/dvisraelin.htm>.

## 2. Injury to Competition in Workstations

In response to Intergraph's claim that Intel's withdrawal of advance information and parts adversely affected Intergraph's business, the Federal Circuit did not find any "effect of such action on competition among manufacturers of graphic subsystems or high-end workstations."<sup>207</sup> Yet injury to competition is not an element of a section 2 violation<sup>208</sup> though a showing of injury to competition could be used to support a finding of anticompetitive conduct.<sup>209</sup> However, a lack of evidence demonstrating harm to competition in the workstation market seems insignificant because Intergraph claimed that Intel illegally maintained its monopoly in microprocessor, not that the monopoly was illegally acquired.

## 3. A Monopolist's Refusal to do Business

In response to Intergraph's claim that Intel illegally refused to do business, the Federal Circuit stated that a manufacturer has the right "to exercise his own independent discretion as to parties with whom he will deal."<sup>210</sup> While the court's assertion is correct with regard to manufacturers in general, a monopolist's right to refuse to deal is limited.<sup>211</sup> In *Olympia Equipment Leasing Co. v. Western Union Telegraph Co.*,<sup>212</sup> Judge Posner said that the "essential feature of the refusal-to-deal cases [is] a monopoly supplier's discriminating against a customer because the customer has decided to compete with it" in a market in which the supplier does not have a monopoly.<sup>213</sup> Intel's preferential treatment to "loyal" users—those who do not threaten Intel's microprocessor monopoly by purchasing from another supplier—preserved its monopoly. Such treatment alone appears sufficient to state a valid section 2 claim for illegal maintenance of monopoly power in

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207. *Intergraph*, 195 F.3d at 1355, 52 U.S.P.Q.2d (BNA) at 1647.

208. See, e.g., *ALCOA*, 148 F.2d 416, 65 U.S.P.Q. (BNA) 6; *Neumann*, 786 F.2d 424, 229 U.S.P.Q. (BNA) 383. On the other hand, as the Fifth Circuit pointed out in *Great W. Directories*, "evidence of an injury must exist if [the plaintiffs] . . . are to obtain damages." 63 F.3d at 1385.

209. See *Neumann*, 786 F.2d at 427, 229 U.S.P.Q. (BNA) at 385.

210. *Intergraph*, 195 F.3d at 1358, 52 U.S.P.Q.2d (BNA) at 1649 (quoting *United States v. Colgate*, 250 U.S. 300, 307 (1919)).

211. See *supra* Part II.B.3 and authorities cited therein.

212. 797 F.2d 370, 377 (7th Cir. 1986). Cf. *Kodak*, 504 U.S. at 485 ("[O]ne of the evils proscribed by the antitrust laws is the creation of entry barriers to potential competitors by requiring them to enter two markets simultaneously."). According to FTC Chairman Robert Pitofsky: "I think the governing rule is that a monopolist cannot coerce or induce customers or competitors to bend to its will by using its monopoly power, if it is reasonably likely that course of conduct will injure competition and the monopolist does not have a good business reason for its conduct." *Roundtable Conference With Enforcement Officials*, 67 ANTITRUST L.J. 453, 457 (1999) (discussing the FTC's action against Intel).

213. *Olympia*, 797 F.2d at 377.

microprocessors.

#### 4. Anticompetitive Conduct Concerning Intellectual Property

In response to Intergraph's claim that Intel exhibited anticompetitive conduct concerning intellectual property rights, the Federal Circuit reiterated that "[n]o patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of . . . refus[al] to license or use any rights to the patent[.]"<sup>214</sup> However, 35 U.S.C. § 271(d) contains the following proviso: "*unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.*"<sup>215</sup>

The significance of this proviso was previously recognized by the Federal Circuit in *Schlafly v. Caro-Kann Corp.*<sup>216</sup> Relying on the language of the Patent Reform Act and its interpretation by the courts, it follows that the statute distinguishes between refusal to license when the patent holder does not have market power and refusal to license when the patent holder does have market power. In addition, the Patent Reform Act makes it clear that the mere existence of a patent does not give the patent holder market power in the economic sense.<sup>217</sup> It would logically follow that an owner of a patent or copyright with monopoly power in a market who refuses to license a product of the patent or copyright unless the licensee agrees to discontinue actions that harm the licensee's ability to compete should constitute anticompetitive actions in violation of section 2.<sup>218</sup>

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214. *Intergraph*, 195 F.3d at 1362, 52 U.S.P.Q.2d (BNA) at 1652-53 (quoting 35 U.S.C. § 271(d)(4)).

215. 35 U.S.C. § 271(d) (1994) (emphasis added). The American Bar Association states that the FTC and DOJ "believe that Section 271(d)(4) simply limits the 'patent misuse' defenses available in an infringement case without necessarily circumscribing the application of the antitrust laws." LICENSING GUIDELINES, *supra* note 11, § 2.2. The courts have recognized that § 2 may be violated where "the *dominant* competitor in a market acquires a patent covering a substantial share of the same market that he knows when added to his existing share will afford him monopoly power." *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1205, 209 U.S.P.Q. (BNA) 889, 990 (2d Cir. 1981) (emphasis added).

216. No. 98-1005, 1998 U.S. App. LEXIS 8250, at \*20 (Fed.Cir. Apr. 29, 1998) (stating that a patent owner's "decision to restrict its licenses . . . does not constitute an unlawful practice *in the absence of proof that it has market power in the relevant market.*" (emphasis added)).

217. See Allan M. Soobert, *Antitrust Implications of Bundling Software And Support Services: Unfit To Be Tied?*, 21 DAYTON L. REV. 63, 89 (1995) ("The presumption of market power derived from older patent cases is inappropriate for copyrighted products, especially software. . . . This application is especially troublesome when one notes that the patent misuse law [35 U.S.C. § 271(d)] has eliminated this presumption and now requires proof of market power.").

218. See Kauffman, *supra* note 13, at 523 (criticizing the Ninth Circuit's decision in *Kodak*, 504 U.S. 451 (9th Cir. 1992), in part, because the Patent Act provides patent holders with the right to

### F. The Test for Anticompetitive Conduct Under Section 2

This Article proposes that courts should look more critically at contract restrictions and marketing practices of monopolists than product design decisions, although product design decisions should not be completely immune from scrutiny.

Contractual provisions, as they relate to the terms of the sale, generally reflect competition on the merits of the product, and consequently should not be considered anticompetitive.<sup>219</sup> Conversely, contractual provisions by which a monopolist limits how the other contracting party may deal with third parties do not appear to constitute competition on the merits and should therefore be deemed anticompetitive.<sup>220</sup> To determine whether a contractual provision is anticompetitive, the provision should be “objectively anticompetitive.”<sup>221</sup>

Product design decisions, in contrast, which provide the foundation for innovation, are allowed a measure of deference, even if the manufacturer is a

exclude others from making, using, or selling the patented product). Kauffman’s assessment is true, but only if the patent holder does not have monopoly power.

219. See *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1060 (8th Cir. 2000). In some cases, however, pricing practices could constitute economic coercion or other anticompetitive conduct. See *LePage’s*, 2000 U.S. Dist. LEXIS 3087, at \*14 (“3M customized a program with Staples that provided for an extra 1% bonus rebate on Scotch tape sales ‘if LePage’s business is given to 3M.’”); *Avery*, 2000 U.S. Dist. LEXIS 3938, at \*59 (“Avery developed a plan to use a ‘bait and switch’ tactic with which it proposed to lower the price of its key SKU numbers by approximately 15% and then raise the price of its noncompetitive SKU numbers to match the decreases.”); *Greyhound Computer Corp. v. IBM*, 559 F.2d 488 (9th Cir. 1977) (changing price structure of computer leases was *prima facie* evidence of anticompetitive conduct).

220. See *Yeager’s Fuel, Inc. v. Pennsylvania Power & Light Co.*, 953 F. Supp. 617, 643–44 (E.D. Pa. 1997):

[T]he court finds evidence of conduct that a jury could consider predatory. Here, a monopolist with enormous financial resources persuaded builders and developers to exclude competing sources of heat through aggressive marketing strategies that involved cash incentives, advertising promotions, and advance notice of new construction. . . . These all-electric agreements applied to both new homes and any existing homes that the builders developed.

See also *Avery*, 2000 U.S. Dist. LEXIS 3938, at \*55 (“[O]ne could infer that Avery’s exclusivity payments were part of its anticompetitive conduct.”). On the other hand, a failed attempt to gain exclusivity may not violate § 2. See *America Online, Inc. v. GreatDeals.Net*, 49 F. Supp. 2d 851, 859 (E.D. Va. 1999) (“Defendants’ allegation that AOL discouraged other information service providers from permitting Martindale to advertise on their networks does not amount to anti-competitive, [sic] conduct. Defendants fail to allege or demonstrate any impact of the purported anti-competitive [sic] conduct on consumers or competitors.”). Cf. David A. Balto, *Networks and Exclusivity: Antitrust Analysis to Promote Network Competition*, 7 GEO. MASON L. REV. 523, 576 (1999) (“In the joint venture context, exclusivity rules may be particularly problematic. . . . [and] careful antitrust scrutiny is warranted where exclusivity provisions are involved.”).

221. *Olympia*, 797 F.2d at 379. One method of comparison would be to review comparable commercial contracts.

monopolist.<sup>222</sup> Deference does not include clemency for any product design decision; instead, an efficiency justification test is appropriate.<sup>223</sup> Without a demonstration<sup>224</sup> of efficiency justifications, the product design decision should be deemed anticompetitive.

If product design decisions illustrate both efficiency justifications and anticompetitive tendencies, then the intent or purpose of the company's design changes could be considered. If, at the time the monopolist made the decision, pro-competitive reasons were the motivating factors, then the product changes should not be considered anticompetitive. Conversely, if the company believed the pro-competitive actions were pretextual,<sup>225</sup> then the product design decisions should be considered anticompetitive. This is not to suggest that intent to surpass a competitor constitutes a sufficient showing of pretext—such intent would presumably always be irrelevant.<sup>226</sup> However, evidence indicating that a company made decisions regarding design changes not to make it more difficult for others to compete, but to make its product better by the design change, may have a bearing on the outcome.<sup>227</sup>

222. See *Multistate Legal Studies*, 63 F.3d at 1551–52 n.10; *Foremost Pro Color, Inc. v. Eastman Kodak Co.*, 703 F.2d 534, 545 (9th Cir. 1983) (“Even assuming that Kodak enjoyed monopoly power in the amateur photographic market . . . Kodak ‘had the right to redesign its products to make them more attractive to buyers—whether by reason of lower manufacturing cost and price or improved performance.’”).

In other circumstances, we might be reluctant to allow a jury to second-guess engineers' decisions as to the proper construction of a sophisticated piece of equipment. But in this case we cannot look to the reaction of the competitive market to determine whether one design is superior to another [because] ATT's [sic] [government-regulated] tariffs gave it the exclusive right to provide protective couplers.  
*AT&T*, 651 F.2d at 95 n.29 (internal citation omitted).

223. See generally *Stearns*, 786 F.2d at 427, 229 U.S.P.Q. (BNA) at 385.

224. Although the existence of plausible efficiency justifications may appear to be sufficient, a defendant can almost always raise a plausible efficiency justification. If § 2 is to have any impact in the area of product design, the § 2 requirements must be more rigorous than any plausible business justification.

225. See *Patterson v. McLean Credit Union*, 491 U.S. 164, 185–88 (1989); *Texas Dept. of Cmty. Affairs v. Burdine*, 450 U.S. 248, 252–56 (1981); *McDonnell Douglas Corp. v. Green*, 411 U.S. 792, 803–07 (1973). But see *Digital Equip. Corp. v. Sys. Indus., Inc.*, No. 89-0916-Mc, 1990 U.S. Dist. LEXIS 715, at \*3 (D. Mass. Jan. 16, 1990):

SI represented that Digital expanded its use of nonstandard and altered interfaces, cancelled its policy of predisclosure of interface technology, refused to provide SI with technical information readily provided to noncompeting customers, and openly disparaged SI's products with false information.

SI has sufficiently raised the possibility that Digital Equipment's actions . . . were motivated by an unlawful intent and as such, were exclusionary.

226. Cf. *America Online*, 49 F. Supp. 2d at 859 (“[G]eneral intent to gain monopoly status is not sufficient absent some predatory conduct.”).

227. Cf. *Multistate Legal Studies*, 63 F.3d at 1551 (“Both the purpose and results of a product change, including customers' reception of the change, are relevant to whether a claimed product

Reasonable limits accompany the fundamental principle in American business of the right to select one's customers.<sup>228</sup> A monopolist's refusal to do business with a company (the "target") generally does not violate antitrust law. However, an attempt by a monopolist to coerce companies that do business with the monopolist to not do business with the target often constitutes anticompetitive conduct.<sup>229</sup>

Advertising should generally be considered competition on the merits, regardless of the subjective intent of the monopolist. Truthful advertising, regardless of the monopolist's intent, should not be considered anticompetitive within the meaning of section 2. False advertising, particularly if it can be demonstrated that the monopolist knew the advertising was false and would be likely to harm competitors, is more likely to be deemed anticompetitive.<sup>230</sup>

For monopolists that have secured their position legally, plaintiffs do not have to show that allegedly anticompetitive conduct maintaining the monopoly harmed the market. Instead, courts examine whether the monopolist's conduct creates a reasonable possibility of significantly restraining competition.<sup>231</sup> Owners of intellectual property—whether patents or copyrights—are not exempt from the antitrust laws.<sup>232</sup>

improvement is pro- or anticompetitive.").

228. See *United States v. Colgate & Co.*, 250 U.S. 300 (1919).

229. See *supra* Part II.B.5 and authorities cited therein.

230. Appropriately, when product disparagement is an issue, courts impose a rebuttable presumption that the disparagement had a *de minimis* effect. See *Aldridge*, 995 F. Supp. at 749; *Am. Prof'l Testing Serv., Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc.*, 108 F.3d 1147, 1152 (9th Cir. 1997).

231. "In order to rise to a section 2 violation, however, the exclusionary conduct must appear reasonably capable of contributing significantly to creating or maintaining monopoly power." *Instructional Sys. Dev. Corp. v. Aetna Cas. & Sur. Co.*, 817 F.2d 639, 649 (10th Cir. 1987) (citing III P. AREEDA & D. TURNER, *ANTITRUST LAW* ¶ 626c, g (1978)). It is the opinion of this Article that this approach is a prudent one. Furthermore, when it is difficult to determine whether the conduct was anticompetitive, it may be appropriate to look for market effects. It would also be logical to look for market effects when the defendant did not have a monopoly position before the challenged conduct took place. However, at least one member of the D.C. Circuit during the oral argument in the Microsoft litigation seemed to carry this concept further: "So there's got to be a casual connection between the conduct and the maintenance of the monopoly; right?" Transcript of Oral Arguments before the D.C. Circuit, *U.S. v. Microsoft Corp.*, 2000 U.S. App. LEXIS 25584 (D.C. Cir. Feb. 26, 2001) (No. 00-5212), available at <http://www.microsoft.com/presspass/legalnews.asp>. If the test consisted of the question posed *supra*, it would be difficult, if not impossible, for a monopolist to know in advance whether it was in violation of antitrust laws.

232. According to the Supreme Court:

Although the copyright laws confer no rights on copyright owners to fix prices among themselves or otherwise to violate the antitrust laws, we would not expect that any market arrangements reasonably necessary to effectuate the rights that are granted would be deemed a *per se* violation of the Sherman Act.

For instance, in *Kodak*, the Ninth Circuit said that “[s]ection 2 of the Sherman Act condemns exclusionary conduct that *extends natural monopolies into separate markets*. . . . The relevant market for determining the patent or copyright grant is determined under patent or copyright law.”<sup>233</sup> In a similar vein, “certain types of conduct with respect to intellectual property may have anticompetitive effects against which the antitrust laws can and do protect.”<sup>234</sup> Essentially, a two-step process exists for determining whether the use of intellectual property, constitutes anticompetitive conduct. First, is the copyright holder extending its exclusive rights beyond what is granted by copyright law,<sup>235</sup> and second, if so, is it likely that the extension will affect the relevant economic/antitrust market?<sup>236</sup>

The foregoing examples indicate that anticompetitive conduct can be found in numerous forms and types of behavior by a monopolist. As the determination of where business decisions cross into anticompetitive behavior is difficult to make, it becomes particularly important to understand the scope of a copyright holder’s exclusive statutory rights.<sup>237</sup>

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Broadcast Music, Inc. v. CBS, 441 U.S. 1, 19, 201 U.S.P.Q. (BNA) 497, 505 (1979) (emphasis in original).

Another commentator has observed:

[T]wo general principles emerge from the case law: (1) neither patent nor copyright holders are immune from antitrust liability and (2) patent and copyright holders may refuse to sell or license protected work. The interplay of these two principles, however, can result in uncertainty depending on which one a court chooses to emphasize.

Kauffman, *supra* note 13, at 504.

233. 125 F.3d 1195, 1216–17, 44 U.S.P.Q.2d (BNA) 1065, 1080 (9th Cir. 1997) (emphasis added). The Ninth Circuit added:

The relevant markets for antitrust purposes are determined by examining economic conditions. We recently noted the distinction between copyright market definition and antitrust market definition.

....

Parts and service here have been proven separate markets in the antitrust context, but this does not resolve the question whether the service market falls “reasonably within the patent [or copyright] grant” for the purpose of determining the extent of the exclusive rights conveyed.

*Id.* at 1217, 44 U.S.P.Q.2d (BNA) at 1080 (internal citations omitted) (quoting *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 708–09 (Fed. Cir. 1992)).

234. LICENSING GUIDELINES, *supra* note 11, § 2.1. “[L]icense restrictions with respect to one market may harm such competition in another market by anticompetitively foreclosing access to, or significantly raising the price of, an important input.” *Id.* § 3.1 at 78–79.

235. See *Independent*, 203 F.3d at 1327–28.

236. See *Kodak*, 125 F.3d at 1216–17.

237. At oral argument, counsel for Microsoft argued that “in refusing to permit OEMs to make unauthorized modifications of Windows, Microsoft is exercising its rights under federal copyright law. . . . [A]s a matter of copyright law, the licensees are not permitted to make any changes unless they are authorized to do so by their licenses.” Transcript of Oral Arguments before the D.C. Circuit, *U.S. v. Microsoft Corp.*, 2000 U.S. App. LEXIS 25584 (D.C. Cir. Feb. 26–27,

### III. THE EXTENT OF THE COPYRIGHT MONOPOLY

Copyright law hovers over the digital economy. “What is basically at stake is the extent of the copyright owner’s monopoly—from how large an area of activity did Congress intend to allow the copyright owner to exclude others[.]”<sup>238</sup> Yet without copyright protection, “free-riding by those who would merely copy or give away software or other information products that had been painstakingly and expensively developed by others could reduce incentives for developers of software and other information products to create those products or refinements of those products.”<sup>239</sup>

Copyright law has received a great deal of attention because a body of law that was originally promulgated to promote the “Progress of Science” has been transformed into a very effective means of protecting software programs.<sup>240</sup> Opponents of the application of copyright law to computer software argue that a copyright holder’s exclusive right to “copy” is inapplicable to the digital age because “[i]n the digital world, copying is also an essential action, so bound up with the way computers work that control of copying provides unexpectedly broad powers, considerably beyond those intended by the copyright law.”<sup>241</sup>

#### *A. Copyright Law Should Promote the Availability of Computer Programs*

##### 1. Preventing Free-Riding to Promote Science and the Arts<sup>242</sup>

Intellectual property is easy and inexpensive to copy. Without legal

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2001) (No. 00-5212), available at <http://www.microsoft.com/presspass/legalnews.asp>. As Part III will illustrate, this overstates the protection provided by copyright law.

238. *Apple Computer, Inc. v. Microsoft Corp.*, 799 F. Supp. 1006, 1026, 24 U.S.P.Q.2d (BNA) 1081, 1091 (N.D. Cal. 1992), *aff’d*, 35 F.3d 1435, 32 U.S.P.Q.2d (BNA) 1086 (9th Cir. 1994) (quoting *Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 170 U.S.P.Q. (BNA) 577 (9th Cir. 1971)).

239. Letter from Joan Z. Bernstein, et al., Director, Bureau of Competition, FTC, to Carlyle C. Ring, Jr., Chairman of NCCUSL Article 2B Drafting Committee and Professor Geoffrey Hazard, Jr., Director of American Law Institute (Oct. 30, 1998), available at <http://www.ftc.gov/be/v980032.htm>.

240. See RAYMOND T. NIMMER, *THE LAW OF COMPUTER TECHNOLOGY* ¶ 1.02 (3d ed. 1997 & Supp. 2000) [hereinafter *COMPUTER TECHNOLOGY*]. Article I, Section 8 Clause 8 of the United States Constitution authorizes Congress “[t]o promote Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” As originally intended, “science” referred to the writings of authors, whereas the “useful Arts” was used to denote technological endeavors. See J. THOMAS MCCARTHY, *MCCARTHY’S DESK ENCYCLOPEDIA OF INTELLECTUAL PROPERTY* 21 (2d ed. 1995).

241. COMMITTEE ON INTELLECTUAL PROPERTY RIGHTS AND THE EMERGING INFORMATION INFRASTRUCTURE, *THE DIGITAL DILEMMA: INTELLECTUAL PROPERTY IN THE INFORMATION AGE* 230–32 (National Academy Press 2000) [hereinafter *DIGITAL DILEMMA*].

242. U.S. CONST. art. I, § 8, cl. 8.



protection for the copyright holder, works could be copied and resold at a fraction of their retail price.<sup>243</sup> The individuals who violate copyright law in effect "free-ride" on the efforts of the original author.<sup>244</sup> Although limiting free-riding is not the primary purpose of copyright law,<sup>245</sup> free-riding does constitute one of the reasons that copyright protection for software is important.<sup>246</sup>

Copyright law in one sense confers a "monopoly"<sup>247</sup> on a work to the author.<sup>248</sup> However, the ultimate purpose of copyright protection is not

243. See Raymond T. Nimmer & Patricia Ann Krauthaus, *Software Copyright: Sliding Scales and Abstracted Expression*, 32 HOUS. L. REV. 317, 326-27 (1995) (detailing the public goods market) [hereinafter *Sliding Scales*]; David A. Rice, *Public Goods, Private Contract and Public Policy: Federal Preemption Of Software License Prohibitions Against Reverse Engineering*, 53 U. PITT. L. REV. 543, 544 (1992).

244. See *id.* at 554; see also Menell, *supra* note 15, at 1353-56.

245. See *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349, 18 U.S.P.Q.2d (BNA) 1275, 1279 (1991); *Sliding Scales*, *supra* note 243, at 328 (citing, among other cases, *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 220 U.S.P.Q. (BNA) 665 (1984)).

246. See *Sliding Scales*, *supra* note 243, at 327-28. Some commentators have argued that copyright protection afforded to works is insufficient:

[W]hile copyright law can provide appropriate protection for some aspects of computer programs, other valuable aspects of programs, such as the useful behavior generated when programs are in operation and the industrial design responsible for producing this behavior, are vulnerable to rapid imitation that, left unchecked, would undermine incentives to invest in software development.

Pamela Samuelson, et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, 2310 (1994). Cf. DIGITAL DILEMMA, *supra* note 241.

247. A copyright holder has the exclusive right

(1) to reproduce the copyrighted work . . . ; (2) to prepare derivative works . . . ; (3) to distribute copies . . . to the public by sale or other transfer of ownership, or by rental, lease, or lending; (4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly; (5) . . . to display the copyrighted work publicly; and (6) in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.

17 U.S.C. § 106 (1994 & Supp. V 1999).

248. "Copyright law provides an exclusive right for the owner to decide when and how to allow the copyrighted material to be used." Ronald A. Cass, *Copyright, Licensing, and the "First Screen"*, 5 MICH. TELECOMM. & TECH. L. REV. 35, 37 n.8 (1998/1999). However, Cass' statement is short-sighted and disregards certain uses which do not infringe the copyright holder's exclusive rights when performed by third parties. Indeed, subsequently in his Article, Cass refers to innocent, accidental, and incidental uses as outside the control of the copyright holder. See *id.* at 42. Essentially then, "any party is free to read a published work; the right to use a work in this manner does not come within copyright. Similarly, copyright does not give any exclusive right to privately view, display or perform a work. Standing alone, these acts cannot constitute an infringement." COMPUTER TECHNOLOGY, *supra* note 240, ¶ 1.04[2]. In addition, persons who do own the copyright can rely on the fair use defense pursuant to 17 U.S.C. § 107. In short, copyright law only grants a copyright holder the right to exclude others from making certain uses of the copyrighted material, but does not exclude fair uses of the work or the elements of the work that are not protected.

protecting the author, but “advancing the public welfare through rewarding artistic creativity, in a manner that permits the free use and development of non-protectable ideas and processes.”<sup>249</sup>

Promoting the public availability of intellectual property means that the public must have the right to learn from and borrow existing works.<sup>250</sup> The Supreme Court expounded this point in *Campbell v. Acuff-Rose Music, Inc.*, observing that “[e]very book in literature, science and art, borrows, and must necessarily borrow, and use much which was well known and used before.”<sup>251</sup> The Supreme Court’s opinion in *Campbell*, however, did not answer how much or what parts of a copyrighted work may be used by a third party without constituting infringement.

## 2. Unprotected Ideas and Protected Expression

Copyright law protects any work<sup>252</sup> that is fixed<sup>253</sup> in a tangible medium of

249. *Computer Assocs. Int’l, Inc. v. Altai, Inc.*, 982 F.2d 693, 711 (2d Cir. 1992). Although Congress could have required that a literary work promote the Arts in order to receive copyright protection, Congress chose not to do so. See Robert A. Kreiss, *Accessibility and Commercialization in Copyright Theory*, 43 UCLA L. Rev. 1, 38 (1995); *Mitchell Bros. Film Group v. Cinema Adult Theater*, 604 F.2d 852, 860, 203 U.S.P.Q. (BNA) 1041, 1045 (5th Cir. 1979).

250. See *Sliding Scales*, *supra* note 243, at 328 (“[C]reative works do not arise in whole cloth, but are invariably built on existing works, information, and ideas. . . . In addition to protecting the first author, copyright law must preserve the rights of the public and subsequent authors to use existing knowledge, data, and ideas to build their own works.”).

251. 510 U.S. 569, 575, 29 U.S.P.Q.2d (BNA) 1961, 1964 (1994) (quoting *Emerson v. Davies*, 8 F. Cas. 615, 619 (CCD Mass. 1845)).

252. Works of authorship include: literary works; pictorial, graphic, and sculptural works; motion pictures and other audiovisual works; and sound recordings. See 17 U.S.C. § 102(a) (1994). Literary works include “works, other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied.” 17 U.S.C. § 101 (Supp. V 1999). Audiovisual works are “works that consist of a series of related images which are intrinsically intended to be shown by the use of machines, or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any, regardless of the nature of the material objects . . . .” *Id.* A “work of visual art” is separately defined in 17 U.S.C. § 101 and protected through 17 U.S.C. § 106A. See generally Dan L. Burton, *Artists’ Moral Rights: Controversy and the Visual Artists Rights Act*, 48 SMU L. REV. 639 (1995). The provisions of § 106A are outside the scope of this Article. It is important to note that works of authorship do not include facts, but they can include an arrangement of facts into a compilation. See, e.g., *Feist*, 499 U.S. at 344, 18 U.S.P.Q.2d (BNA) at 1277 (“[F]acts are not copyrightable . . . compilations of fact generally are.”); *Shaw v. Lindheim*, 919 F.2d 1353, 1356, 15 U.S.P.Q.2d (BNA) 1516, 1517 (9th Cir. 1990) (“Copyright law protects an author’s expression; facts and ideas within a work are not protected.”).

253. “A work is ‘fixed’ in a tangible medium of expression when it’s embodiment in a copy . . . is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration.” 17 U.S.C. § 101 (Supp. V 1999). For instance, moving audio-visual features of video games may continually or periodically change, yet these images are “fixed” within the meaning of the copyright law. See *Williams Elecs., Inc. v. Artic*

expression which contains a modicum of originality.<sup>254</sup> The test for copyright infringement requires a plaintiff to own a valid copyright and a defendant to copy the original<sup>255</sup> elements of the copyrighted work.<sup>256</sup> A plaintiff may prevail<sup>257</sup> on a copyright infringement suit by proving that the alleged

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Int'l, 685 F.2d 870, 215 U.S.P.Q. (BNA) 405 (3d Cir. 1982); *M. Kramer Mfg. v. Andrews*, 783 F.2d 421, 441, 228 U.S.P.Q. (BNA) 705, 718-19 (4th Cir. 1986). In *Williams*, the defendant argued that participation in the video game meant that the work was not fixed and that "the [video game] player becomes a co-author of what appears on the screen." 685 F.2d at 874, 215 U.S.P.Q. (BNA) at 408. The court rejected this argument, stating "there is always a repetitive sequence of a substantial portion of the sights and sounds of the game, and many aspects of the display remain constant from game to game regardless of how the player operates the controls." *Id.*, 215 U.S.P.Q. (BNA) at 408. Although DIGITAL DILEMMA, *supra* note 241, suggests that the use of "copy" as the foundation for copyright protection may be outmoded, perhaps the definition of "fixed" needs to be changed to preclude the mere placement of a program in RAM in a computer, which is done every time a program runs, is not considered a fixed copy. See *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 518, 26 U.S.P.Q.2d (BNA) 1458, 1463-64 (9th Cir. 1993) (copying occurs when a program is transferred from a permanent storage device, such as a disk, into a computer's RAM). This principle has also been applied to viewing material on the web. See *Intellectual Reserve, Inc. v. Utah Lighthouse Ministry, Inc.*, 75 F. Supp. 2d 1291, 1294, 53 U.S.P.Q.2d (BNA) 1425, 1428 (D. Utah 1999) ("When a person browses a website, and by doing so displays the Handbook, a copy of the Handbook is made in the computer's random access memory (RAM), to permit viewing of the material. And in making a copy, even a temporary one, the person who browsed infringes the copyright."). However, courts have also said that viewing the output of a program on a remote terminal does not constitute copying. See, e.g., *Hogan Sys., Inc. v. Cybersource, Int'l, Inc.*, 158 F.3d 319, 324, 48 U.S.P.Q.2d (BNA) 1668, 1672 (5th Cir. 1998); *NLFC, Inc. v. Devcom Mid-America, Inc.*, 45 F.3d 231, 33 U.S.P.Q.2d (BNA) 1629 (7th Cir. 1995). In both *Hogan* and *NLFC*, the defendants had authority to load the programs into the RAM of the computer, so these cases should not be read as rejecting the principle that loading a program into a computer's RAM is copying. *Hogan* and *NLFC* appear only to mean that remote viewing does not constitute copying beyond what has already occurred through loading the program into the computer's RAM.

254. See 17 U.S.C. § 102(a) (1994). See also *Atari Games Corp. v. Nintendo of Am., Inc.*, 975 F.2d 832, 838, 24 U.S.P.Q.2d (BNA) 1015, 1019 (Fed. Cir. 1992).

255. Originality means that the work was independently created by the author, as opposed to being copied from other works, and that the work possesses a minimal degree of creativity. *Feist*, 499 U.S. at 345, 18 U.S.P.Q.2d (BNA) at 1278 (citing 1 M. NIMMER & D. NIMMER, COPYRIGHT § 2.01[A], [B] (1990)). Compare *West Pub. Co. v. Mead Data Cent., Inc.*, 799 F.2d 1219, 1227, 230 U.S.P.Q. (BNA) 801, 805 (8th Cir. 1986) ("West's . . . internal page citations[] are original works of authorship entitled to copyright protection."), with *Matthew Bender & Co. v. West Publ'g Corp.*, 158 F.3d 693, 699, 48 U.S.P.Q.2d (BNA) 1545, 1550 (2d Cir. 1998) ("Because the internal pagination of West's case reporters does not entail even a modicum of creativity, the volume and page numbers are not original components of West's compilations and are not themselves protected by West's compilation copyright."). See also *CDN, Inc. v. Kapes*, 197 F.3d 1256, 53 U.S.P.Q.2d (BNA) 1032 (9th Cir. 1999) (holding that a wholesale coin price guide had sufficient originality to be protected by copyright); *Southco, Inc. v. Kanebridge Corp.*, 53 U.S.P.Q.2d (BNA) 1490 (E.D. Pa. 2000) (finding a numbering system for hardware parts had sufficient originality to be protected by copyright).

256. *Feist*, 499 U.S. 340, 361, 18 U.S.P.Q.2d (BNA) 1275, 1284 (1991); see also *MiTek Holdings, Inc. v. Arce Eng'g Co.*, 89 F.3d 1548, 1553, 39 U.S.P.Q.2d (BNA) 1609, 1612-13 (11th Cir. 1996).

257. See *O.P. Solutions, Inc. v. Intellectual Prop. Network, Ltd.*, 52 U.S.P.Q.2d (BNA) 1818, 1822 (S.D.N.Y. 1999) (citing *Repp v. Webber*, 132 F.3d 882, 889 n.1, 45 U.S.P.Q.2d (BNA) 1285,

infringer had access to the work and that the original and allegedly copied works are substantially similar.<sup>258</sup> However, as long as the similarity in expression is fortuitous and not the result of copying, a work may be original despite its resemblance to another work.<sup>259</sup> Also, to determine whether the copying constitutes infringement, the protected expression in a copyrighted work must be distinguished from the unprotected elements.<sup>260</sup> Finally, unlicensed use of a copyrighted work is not copyright infringement if the unlicensed use does not conflict with an exclusive right granted by the statute.<sup>261</sup>

The fundamental copyright protections do not extend to any “idea, procedure, process, system, method of operation, concept, principle, or discovery . . . .”<sup>262</sup> This principle was established in *Baker v. Selden*,<sup>263</sup> and

1291 n.1 (2d Cir. 1997)). See also *Intellectual Reserve*, 75 F. Supp. 2d at 1292, 53 U.S.P.Q.2d (BNA) at 1426 (quoting *Country Kids ‘N City Slicks, Inc. v. Sheen*, 77 F.3d 1280, 1284, 38 U.S.P.Q.2d (BNA) 1017, 1019 (10th Cir. 1996) (“To prevail on its claim of direct copyright infringement, ‘plaintiff must establish both: (1) that it possesses a valid copyright and (2) that defendants copied’ protectable elements of the copyrighted work.”)).

258. See *MiTek*, 89 F.3d at 1554, 39 U.S.P.Q.2d (BNA) at 1613–14. In addition, any copying or other use must exceed the scope of use permitted by any valid license held by the alleged infringer. See *Stenograph L.L.C. v. Bossard Assocs.*, 144 F.3d 96, 99, 46 U.S.P.Q.2d (BNA) 1936, 1938 (D.C. Cir. 1998).

259. See *Feist*, 499 U.S. at 345, 18 U.S.P.Q. (BNA) at 1277–78. The suggestion in *Feist* that fortuitous similarity does not create copyright infringement may be an over-simplification. One method of proving copying is to show that the alleged infringer had access to a copyrighted work and the alleged infringing work has “probative similarity” to the copyrighted work. See *Eng’g Dynamics, Inc. v. Structural Software, Inc.*, 26 F.3d 1335, 1340, 1341 n.4, 31 U.S.P.Q.2d (BNA) 1641, 1643, 1644 n.4 (5th Cir. 1994), supplemented by 46 F.3d 408, 34 U.S.P.Q.2d (BNA) 1157 (5th Cir. 1995). Thus, a showing that an allegedly infringing work closely resembles a copyrighted work can be a significant step toward proving infringement. See *Gates Rubber Co. v. Bando Chem. Indus.*, 9 F.3d 823, 833 n.8, 28 U.S.P.Q.2d (BNA) 1503, 1507 n.8 (10th Cir. 1993) (proof of probative similarities “creates an inference that the defendant appropriated portions of the plaintiff’s program.”).

260. See *Atari*, 975 F.2d at 838, 24 U.S.P.Q.2d (BNA) at 1019 (“[T]his court must first distinguish protectable expression from the unprotected elements . . . .”).

261. See *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 155, 186 U.S.P.Q. (BNA) 65, 66–67 (1975) (“No license is required by the Copyright Act, for example, to sing a copyrighted lyric in the shower.”).

262. 17 U.S.C. § 102(b) (1994) (“In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.”).

263. 101 U.S. 99, 102 (1879) (holding that blank bookkeeping forms were not protected by copyright law); see also *Kern River Gas Transmission Co. v. Coastal Corp.*, 899 F.2d 1458, 1463–64, 14 U.S.P.Q.2d (BNA) 1898, 1902 (5th Cir. 1990) (“[T]he idea of the location of the pipeline and its expression embodied in the . . . maps are inseparable and not subject to protection.”); *Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222, 1234, 230 U.S.P.Q. (BNA) 481, 488–89 (3d Cir. 1986).

reiterated in *Nichols v. Universal Pictures Corp.*<sup>264</sup> and *Peter Pan Fabrics, Inc. v. Martin Weiner Corp.*<sup>265</sup> The distinction between unprotected ideas and protected expression is not easy to make, and becomes even more difficult when functional works such as computer programs are at issue.<sup>266</sup> In fact, since computer programs are merely “instructions to be used directly or indirectly in a computer in order to bring about a certain result[.]”<sup>267</sup> it would be easy to conclude from 17 U.S.C. § 102(b) that computer programs<sup>268</sup> are “method[s] of operation” not protected by copyright law.<sup>269</sup> However, legislative history and case law firmly establish that computer programs may be protected through copyright law.<sup>270</sup>

264. 45 F.2d 119, 121, 7 U.S.P.Q. (BNA) 84, 86 (2d Cir. 1930) (Judge Learned Hand said that the plot of one play could infringe the plot of another play, depending on how similar the plots were, even if the words used in the two plays were dissimilar). However, the idea for a play that contains a scene with a knight would not be protected by copyright law. *Id.*, 7 U.S.P.Q. (BNA) at 86–87.

265. 274 F.2d 487, 490, 124 U.S.P.Q. (BNA) 154, 155 (2d Cir. 1960) (Judge Hand indicated that no principle could be developed in advance for determining when someone had gone beyond copying an idea and had instead copied expression, concluding that “[d]ecisions must therefore inevitably be ad hoc.”). See also David W.T. Daniels, *Learned Hand Never Played Nintendo: A Better Way to Think about the Non-Literal, Non-Visual Software Copyright Cases*, 61 U. CHI. L. REV. 613 (1994).

266. Cf. *Attia v. Soc’y of the N.Y. Hosp.*, 201 F.3d 50, 55, 53 U.S.P.Q.2d (BNA) 1253, 1257 (2d Cir. 1999) (“The problem of distinguishing an idea from its expression is particularly acute when the work of ‘authorship’ is of a functional nature, as is a plan for the accomplishment of an architectural or engineering project.”).

267. 17 U.S.C. § 101 (Supp. V 1999).

268. Computer programs do not include video displays because video displays are the output of the computer program, not the program itself.

269. 17 U.S.C. § 102(b) (1994); see also Jane C. Ginsburg, *Four Reasons and a Paradox: The Manifest Superiority of Copyright Over Sui Generis Protection of Computer Software*, 94 COLUM. L. REV. 2559, 2569–70 (1994).

Congress has supplied two arguably inconsistent directives pertinent to computer programs. First, for all works of authorship, Congress in the 1976 Copyright Act declared that protection does not “extend to . . . processes.” Second, in 1980, Congress enacted amendments to the 1976 Act, to make clear that computer programs are protected by copyright law. Congress then defined a “computer program” as “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.” There may be some tension between these two texts: a “set of instructions used in order to bring about a certain result” would appear, at least in lay terms, to constitute a “process,” “system,” or “method[s] of operation.”

*Id.* (omission in original).

270. The House Report on the Copyright Act of 1976 clarifies “that the expression adopted by the programmer is the copyrightable element in a computer program, and that the actual processes or methods embodied in the program are not within the scope of the copyright law.” *Atari*, 975 F.2d at 839, 24 U.S.P.Q.2d (BNA) at 1020 (citing H.R. REP. NO. 1476, 94th Cong., 2d Sess. 57 (1976), reprinted in 1976 U.S.C.C.A.N. 5659, 5670). Congress clarified the application of copyright law to computer programs based upon the report of the National Commission on New Technological Uses of Copyright Works (CONTU), by the substitution of a new 17 U.S.C. § 117 that set parameters for

In addition to the limitation on the rights of copyright holders,<sup>271</sup> 17 U.S.C. § 107 exempts the fair use of a copyrighted work from infringement.<sup>272</sup> Fair use is one of the central issues examined in many copyright cases involving computer software due to the importance of compatibility between programs. Before the application of the fair use doctrine to computer programs may be examined, a determination must be made as to which, if any, elements of a computer program and computer screen are protected by copyright law. To the extent that copyright law does not protect elements of a computer program or screen display, attempts by monopolists to shield their unprotectable computer elements from competition may violate section 2 of the Sherman Act.

### *B. The Scope of Protection for Computer Programs Under Copyright Law*

#### 1. The Abstraction, Filtration, and Comparison of Computer Programs

Determining the scope of copyright protection is crucial. As copyright law protects expression, not ideas, courts must separate the expression from the idea in each computer program. To separate the idea and expression, the court in *Computer Associates* promulgated the Abstraction, Filtration, and Comparison test.<sup>273</sup> Abstraction requires the court to “retrace and map each of

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the exclusive rights of owners of computer programs under 17 U.S.C. § 106; and the addition of a definition of computer program at 17 U.S.C. § 101. See *Apple Computer, Inc. v. Formula Int'l, Inc.*, 562 F. Supp. 775, 781–82, 218 U.S.P.Q. (BNA) 47, 51–52 (C.D. Cal. 1983). It should be noted that instructions encoded on silicon chips are also protected, but this protection, offered by the Semiconductor Chip Protection Act of 1984, is outside the scope of this Article. See generally discussion of Semiconductor Chip Protection Act of 1994 in Menell, *supra* note 15, at 1353; COMPUTER TECHNOLOGY, *supra* note 240, ¶ 1.21.

271. See 17 U.S.C. § 102(b) (1994).

272. See 17 U.S.C. § 107 (1994 & Supp. V 1999). There are other statutory exceptions to the exclusive rights granted in 17 U.S.C. § 106. For instance, 17 U.S.C. § 117 allows owners of copies of computer programs to make a copy, or in certain circumstances, an adaptation of the program. For different discussions of the meaning of “owner” within this context, see *DSC Communications Corp. v. Pulse Communications, Inc.*, 170 F.3d 1354, 50 U.S.P.Q.2d (BNA) 1001 (Fed. Cir. 1999), *cert. denied*, 528 U.S. 923 (1999); *MAI*, 991 F.2d at 519 n.5, 26 U.S.P.Q.2d (BNA) at 1462–63 n.5. See also *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255, 261, 7 U.S.P.Q.2d (BNA) 1281, 1287 (5th Cir. 1988) (stating that “[s]ection 117(1) contains no language to suggest that the copy it permits must be employed for a use intended by the copyright owner, and, absent clear congressional guidance to the contrary, we refuse to read such limiting language into this exception.”).

273. 982 F.2d at 706 (recognizing “computer technology is a dynamic field which can quickly outpace judicial decision making,” the court added “our opinion should not be read to foreclose the district courts of our circuit from utilizing a modified version” of the tests set forth). Courts have also applied the same test to copying of the literal elements of a computer program. See, e.g., *Gates*, 9 F.3d at 836, 28 U.S.P.Q.2d (BNA) at 1510–11; *Bateman v. Mnemonics, Inc.*, 79 F.3d 1532, 1545, 38 U.S.P.Q.2d (BNA) 1225, 1234–35 (11th Cir. 1996); *Tradescape.Com v. Shivaram*, 77 F. Supp. 2d 408, 417 (S.D.N.Y. 1999). See also Jon O. Newman, *New Lyrics for an Old Melody: The*

the designer's steps—in the opposite order in which they were taken during the program's creation," in order to identify unprotected ideas at each level of abstraction.<sup>274</sup> Filtration requires the court to separate out non-protectable elements, including those dictated by efficiency, merger, external factors, and elements taken from the public domain.<sup>275</sup> Finally, the works are compared<sup>276</sup> to determine whether sufficient similarity<sup>277</sup> exists between the protected elements of the copyrighted work and the allegedly infringing work to justify

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*Idea/Expression Dichotomy in the Computer Age*, 17 CARDOZO ARTS & ENT. L.J. 691 (1999) (referring to the abstraction-filtration-comparison as an analysis, rather than a test, and stating that the application of the analysis should vary depending on the mode of expression involved).

274. *Computer Assocs.*, 982 F.2d at 707. The Second Circuit explained that "a court should dissect the allegedly copied program's structure and isolate each level of abstraction contained within it. This process begins with the code and ends with an articulation of the program's ultimate function." *Id.* Cf. *O.P. Solutions*, 50 U.S.P.Q.2d (BNA) at 1417; *MiTek*, 89 F.3d at 1555, 39 U.S.P.Q. 2d (BNA) at 1614 ("[I]f the copyright holder presents the court with a list of features that it believes to be protectable (i.e., original and outside of 17 U.S.C. § 102(b)), the court need not abstract further such features."). Questioning the mechanical application of an abstractions test to computer programs, Judge Newman stated that "a computer program, unlike a play, is not easily reduced to a hierarchy of abstractions, ranging vertically from the most to the least abstract." Newman, *supra* note 273, at 700. Nimmer believes that the abstraction approach

[P]resumes a litigation context in which the focus of the claim is not clearly identified. Not surprisingly, few courts make use of this structural tool. Courts focus instead on the particular allegation of infringement and examine that allegation against their view of the idea or process related to the design level to which the allegation applies.

*Sliding Scales*, *supra* note 243, at 361.

275. See *Computer Assocs.*, 982 F.2d at 707–10. A court may not have to perform the filtration analysis if an entire program has been copied since "there is no doubt that protected elements of the software were copied." *Sony Computer Entm't, Inc. v. Connectix Corp.*, 48 F. Supp. 2d 1212, 1217, 50 U.S.P.Q.2d (BNA) 1920, 1924 (N.D. Cal. 1999), *rev'd on other grounds*, 203 F.3d 596, 53 U.S.P.Q.2d (BNA) 1705 (9th Cir. 2000). "[T]he various doctrines that limit copyright protection are often barely distinguishable from one another." *Apple*, 799 F. Supp. 1006, 1022, 24 U.S.P.Q.2d (BNA) 1081, 1088 (N.D. Cal. 1992) (citing *Apple Computer, Inc. v. Microsoft Corp.*, 779 F. Supp. 133, 134, 20 U.S.P.Q.2d (BNA) 1236, 1236 (N.D. Cal. 1991), *aff'd*, 35 F.3d 1435, 32 U.S.P.Q.2d (BNA) 1086 (9th Cir. 1994) (stating that "there is apparently no principled means of distinguishing the traditional doctrines of merger, functionality, and scenes a faire . . .")).

276. Comparison of the arrangements of two databases can be particularly difficult when one database is on paper and another is stored electronically. See *EPM Communications, Inc. v. Notara, Inc.*, 56 U.S.P.Q.2d (BNA) 1144, 1148–49 (S.D.N.Y. 2000).

277. The courts apply the "substantial similarity" test in two different ways. First, a court must determine whether or not the defendant copied the plaintiff's work. This has been referred to both as "probative similarity" and "substantial similarity." *O.P. Solutions*, 50 U.S.P.Q.2d (BNA) at 1402–03. In regard to this issue, "a court should compare the works in their entirety, including both protectable and unprotectable elements." *Id.*, 50 U.S.P.Q.2d (BNA) at 1403 (citing *Fisher-Price, Inc. v. Well-Made Toy Mfg.*, 25 F.3d 119, 123, 30 U.S.P.Q.2d (BNA) 1954, 1957 (2d Cir. 1994)). Second, if there has been copying, as a legal matter a court must conclude whether the defendant copied a "substantial amount of protectable elements." *O.P. Solutions*, 50 U.S.P.Q.2d (BNA) at 1403. This is also referred to as the "substantial similarity" test. *Id.*, 50 U.S.P.Q.2d (BNA) at 1402–03. For a detailed discussion of the two different purposes for comparing similarity, see *Sliding Scales*, *supra* note 243, at 338–51.

a finding of infringement.<sup>278</sup>

## 2. Identifying the Unprotectable Elements of a Computer Program

### *i. Merger*

Under the merger doctrine, the expressive elements of a computer program dictated by efficiency are not protected expression. When there are a limited number of means to efficiently express an idea—in a computer program or otherwise—the expression merges with the idea and it may not be protected.<sup>279</sup> For instance, in *Lotus Development Corp. v. Paperback Software International*,<sup>280</sup> the court said that “if a previous programmer’s idea can be expressed in only one or a limited number of ways—such as the rotated ‘L’ screen display or the use of the slash key to invoke the menu command system—then the expression, too, may be copied.”<sup>281</sup> In *Morrissey v. Procter & Gamble Co.*,<sup>282</sup> the court held that the rules for a “sweepstakes” sales promotion contest involving submitting the contestant’s name, address, and telephone number were not copyrightable, since the number of ways of expressing the rules were limited.

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278. See *Gates*, 9 F.3d at 839, n.15, 28 U.S.P.Q.2d (BNA) at 1513, n.15 (referring to substantial similarity as “primarily a qualitative rather than a purely quantitative analysis.” The court also noted various “tests” which had been used by other courts in determining substantial similarity—“total concept and feel,” “fundamental essence or structure,” and “iterative”—and rejected those tests in comparing computer software). *Gates* concluded “the comparison must necessarily be an ad hoc determination of whether the infringed portion is a significant or important part of the plaintiff’s code, considered as a whole.” *Id.* at 839 n.15, 28 U.S.P.Q.2d (BNA) at 1513 n.15. See also *Eng’g Dynamics*, 26 F.3d at 1347–48, 31 U.S.P.Q.2d (BNA) at 1650 (“[S]ubstantial similarity is, in the final analysis, a value judgment . . .”); *Cybermedia, Inc. v. Symantec Corp.*, 19 F. Supp. 2d 1070, 1077, 48 U.S.P.Q.2d (BNA) 1335, 1340 (N.D. Cal. 1998) (stating “[when] the amount copied is so small as to be *de minimis*, a finding of substantial similarity is not justified,” while recognizing that the *de minimis* criteria is a qualitative, not quantitative measure) (italics added). In *NEC Corp. v. Intel Corp.*, the court concluded that because the overall design of the microcode was not substantially similar, there was no copyright infringement. 10 U.S.P.Q.2d (BNA) 1177, 1183 (N.D. Cal. 1989). However, the court added that some of the shorter microroutines were substantially similar to the microroutines of Intel, and thus deserved separate consideration. See *id.*, 10 U.S.P.Q.2d (BNA) at 1184. The court concluded that “[a]s to these shorter, simpler microroutines, if their underlying ideas are capable of only a limited range of expression, they ‘may be protected only against virtually identical copying.’” *Id.*, 10 U.S.P.Q.2d (BNA) at 1188. (quoting *Frybarger v. IBM*, 812 F.2d 525, 530, 2 U.S.P.Q.2d (BNA) 1135, 1139 (9th Cir. 1987)).

279. See *Computer Assocs.*, 982 F.2d at 707–09.

280. 740 F. Supp. 37, 15 U.S.P.Q.2d (BNA) 1577 (D. Mass. 1990).

281. *Id.* at 78, 15 U.S.P.Q.2d (BNA) at 1608. The court noted that the majority of the keys relate to either values or labels rather than the menu command system. As such, the court observed that the command keys must be easily accessible because the menu command keys are used frequently. See *id.* at 66, 15 U.S.P.Q.2d (BNA) at 1598.

282. 379 F.2d 675, 678–79, 154 U.S.P.Q. (BNA) 193, 195 (1st Cir. 1967).



The application of the merger doctrine to computers is by no means mechanical. In *Manufacturers Technologies, Inc. v. Cams, Inc.*, the court concluded that expression merged with idea in the “manner of formatting screen displays for ease of use” and in the computer program’s method of navigation within the screen displays.<sup>283</sup> On the other hand, *Digital Communications Associates, Inc. v. Softklone Distributing Corp.*, concluded that the mode of expression chosen for a computer status screen—the “arrangement and design” of individual words, rather than sentences or artistic designs—was copyrightable.<sup>284</sup>

## ii. External Requirements

Elements of a computer program dictated by external requirements are not protected expression as a result of the “scenes a faire” doctrine.<sup>285</sup> The court in *Computer Associates International, Inc. v. Altai, Inc.* listed numerous elements of a program resulting from external factors that were potentially unprotectable.<sup>286</sup> In addition, elements of a computer screen may be subject to the scenes a faire doctrine.<sup>287</sup>

When determining whether the scenes a faire doctrine is applicable, courts focus on the external requirements faced by the author of the copyrighted

283. 706 F. Supp. 984, 995, 10 U.S.P.Q.2d (BNA) 1321, 1329 (D. Conn. 1989).

284. 659 F. Supp. 449, 462, 2 U.S.P.Q.2d (BNA) 1385, 1394 (N.D. Ga. 1987) (containing groupings of parameters/command terms).

The arrangement of the commands under descriptive parameter headings aids the user in easier understanding of the availability, importance, and functioning of the various commands. Likewise, the highlighting and capitalizing of certain letters of the commands assist the user in knowing which symbols to enter to activate the various commands.

*Id.*, 2 U.S.P.Q.2d (BNA) at 1393.

285. *Gates*, 9 F.3d at 838, 28 U.S.P.Q.2d (BNA) at 1512.

286. The external factors include: first, the mechanical specifications of the computer on which a particular program is intended to run; second, the compatibility requirements of other programs with which a program is designed to operate in conjunction with; third, the computer manufacturers’ design standards; fourth, the demands of the industry being served; and finally, widely accepted programming practices within the computer industry. See 982 F.2d at 709–10 (citing MELVILLE B. NIMMER & DAVID NIMMER, 3 NIMMER ON COPYRIGHT § 13.03[F][2] (1991)) [hereinafter NIMMER ON COPYRIGHT]; see also *Computer Mgmt. Assistance Co. v. DeCastro, Inc.*, 220 F.3d 396, 55 U.S.P.Q.2d (BNA) 1643 (5th Cir. 2000).

287. For instance, in *Data East USA, Inc. v. Epyx, Inc.*, the Ninth Circuit considered two competing video games in a copyright infringement suit. The court said that the features of the two games “consist of the game procedure, common karate moves, the idea of background scenes, a time element, a referee, computer graphics, and home points result from either constraints inherent in the sport of karate or computer restraints.” 862 F.2d 204, 209, 9 U.S.P.Q.2d (BNA) 1322, 1326 (9th Cir. 1988). The court held that under the scenes a faire doctrine, these elements of the game were not protectable. See *id.*, 9 U.S.P.Q.2d (BNA) at 1326. The court added that there could only be infringement if identical copying were found; as the entire game had not been copied, the district court’s injunction was reversed. See *id.* at 210, 9 U.S.P.Q.2d (BNA) at 1326–27.

work, not the external requirements faced by the author of the alleged infringing work.<sup>288</sup> However, this can be a distinction without a difference because if both works were influenced by the same standard, it is irrelevant which work is reviewed in applying the scenes a faire doctrine.<sup>289</sup> When standards are commonly accepted, the standards become external requirements for everyone.<sup>290</sup> Even original expression may be “unprotectable as scenes a faire because it is dictated by external functionality and compatibility requirements of the computer and telecommunications industries.”<sup>291</sup> Similarly, in *Bateman v. Mnemonics, Inc.*, the court concluded that “external considerations such as compatibility may negate a finding of infringement.”<sup>292</sup>

Compatibility should not, however, be an excuse for wholesale copying. In *E.F. Johnson Co. v. Uniden Corp. of America*,<sup>293</sup> the court said that the mere fact that Uniden set out to create a mobile radio that was compatible with E.F. Johnson’s system did not excuse copying of code not necessary to

288. See, e.g., *Mitel, Inc. v. Iqtel, Inc.*, 124 F.3d 1366, 1375, 44 U.S.P.Q.2d (BNA) 1172, 1180 (10th Cir. 1997). But see Timothy S. Teter, Note, *Merger and the Machines: An Analyses of the Pro-Compatibility Trend in Computer Software Copyright Cases*, 45 STAN. L. REV. 1061 (1993) (arguing that if the elements copied by an alleged infringer are necessary to achieve compatibility with the copyrighted work, then these elements should not be copyrightable). If the approach advocated by Teter and others were accepted, “the characters of Scarlet O’Hara and Rhett Butler would not enjoy protection because these characters would be necessary for a second-comer to write a sequel to ‘Gone with the Wind.’” Steven N. Dupont, *The Copyright and Trade Secret Protection of Communication Software: Placing a Lock on Interoperability*, 13 J. MARSHALL J. COMPUTER & INFO. L. 17, 29 n.69 (1994). Dupont’s response is an invalid generalization. First, compatibility should be limited to technical compatibility and therefore sequels do not have to be technically compatible (e.g., one video could be in a VHS format and the sequel could be in a Beta format). In addition, highly artistic works, including *Gone with the Wind*, are given greater copyright protection than functional works.

289. Teter argues that “copyright should leave the following elements of software unprotected: (1) elements dictated by efficiency; (2) internal interface elements *required* to achieve compatibility; and (3) elements of user interfaces that have already become de facto interface standards.” Teter, *supra* note 288, at 1070 (emphasis in original).

290. See *id.* at 1068–69.

291. *Mitel*, 124 F.3d at 1376, 44 U.S.P.Q.2d (BNA) at 1180–81. For example, copyright protection could not attach to “equipment already installed in the central offices of Mitel’s customers” and the “limits inherent in the public telephone networks that the call controllers accessed.” *Id.* at 1375, 44 U.S.P.Q.2d (BNA) at 1180. See also *Eng’g Dynamics*, 26 F.3d at 1347 n.12, 31 U.S.P.Q.2d (BNA) at 1649–50 n.12 (“[E]xtrinsic considerations such as the nature of the hardware on which the program will run, compatibility requirements of other programs, computer manufacturers’ design standards, the demands of the industry being served, and widely accepted programming practices within the computer industry.”).

292. 79 F.3d 1532, 1547, 38 U.S.P.Q.2d (BNA) 1225, 1236 (11th Cir. 1996). The *Bateman* court also said it was “an incorrect statement of the law that interface specifications are not copyrightable as a matter of law.” *Id.*, 38 U.S.P.Q.2d (BNA) at 1236.

293. 623 F. Supp. 1485, 228 U.S.P.Q. (BNA) 891 (D. Minn. 1985).

achieve compatibility.<sup>294</sup> The court enjoined Uniden after concluding that Uniden could achieve compatibility if all aspects of Uniden's program, other than the "Barker code," had been independently created.<sup>295</sup>

### iii. Public Domain

The final element to be filtered out of a protected work is material in the public domain, including "elements of a computer program that have entered the public domain by virtue of freely accessible program exchanges."<sup>296</sup> Publication of a copyrighted work is insufficient to constitute entering the public domain.<sup>297</sup> However, in *MiTek Holdings, Inc. v. Arce Engineering Co.*,<sup>298</sup> a four-box screen display that was common for a wide variety of competing programs was deemed to be in the public domain, as the result of "standardization across competing products for functional considerations."<sup>299</sup> Similar to the concept of being in the public domain, in rare instances a copyright can be abandoned.<sup>300</sup>

294. The Barker code was necessary "in order for communication to be established." *Id.* at 1494, 228 U.S.P.Q. (BNA) at 897.

295. *See id.* at 1503, 228 U.S.P.Q. (BNA) at 904-05.

296. *Computer Assocs.*, 982 F.2d at 710. *Cf. E. F. Johnson*, 623 F. Supp. at 1499, 228 U.S.P.Q. (BNA) at 901 (rejecting defendant's argument that software program was not copyrightable because the information was largely taken from the public domain); *CCC Info. Serv., Inc. v. MacLean Hunter Mkt. Reports, Inc.*, 44 F.3d 61, 74, 33 U.S.P.Q.2d (BNA) 1183, 1193 (2d Cir. 1994) (finding that "a state's reference to a copyrighted work as a legal standard for valuation" did not cause the work to lose its copyright protection as a result of being in the public domain).

297. The owner of a copyrighted work created on or after January 1, 1978 has the exclusive right to publish their work. *See* 17 U.S.C. § 106 (1994 & Supp. V 1999). The exclusive right, with a few exceptions, "endures for a term consisting of the life of the author and 70 years after the author's death." 17 U.S.C. § 302(a) (Supp. V 1999). There are other provisions concerning the term of a copyrighted work created prior to January 1, 1978 located throughout 17 U.S.C. §§ 302-05. For an interesting discourse on copyright protection for software, see Jonathan Zittrain, *The Un-Microsoft Un-Remedy: Law can Prevent the Problem that it Can't Patch Later*, 31 CONN. L. REV. 1361, 1374 (1991) (proposing a "five year copyright term for every piece of software, regardless of author or subsequent market success").

298. 864 F. Supp. 1568, 34 U.S.P.Q.2d (BNA) 1417 (S.D. Fla. 1994), *aff'd*, 89 F.3d 1548, 39 U.S.P.Q.2d (BNA) 1609 (11th Cir. 1996).

299. *MiTek*, 864 F. Supp. at 1583, 34 U.S.P.Q.2d (BNA) at 1427 (quoting *Apple Computer, Inc. v. Microsoft Corp.*, 799 F. Supp. 1006, 1023, 24 U.S.P.Q.2d (BNA) 1081, 1089 (N.D. Cal. 1992) *aff'd*, 35 F.3d 1435, 32 U.S.P.Q.2d (BNA) 1086 (9th Cir. 1994)). It is worth noting that the discussion of standardization in *Apple* was part of a scenes a faire/external factors analysis. In a standardization analysis, material in the public domain and material influenced by external factors can be very similar. *Cf. Southco*, 53 U.S.P.Q.2d (BNA) at 1496 (determining that a numbering system for hardware parts retained copyright protection despite gaining acceptance as an industry standard).

300. In *S.R. Seshadri v. Kasraian*, the court said "a statement or other act that demonstrates an intention of relinquishing any copyright interest in a work" would demonstrate abandonment. 130 F.3d 798, 805, 45 U.S.P.Q.2d (BNA) 1040, 1045 (7th Cir. 1997); *see also Transgo, Inc. v. Ajac Transmission Parts Corp.*, 768 F.2d 1001, 1019, 227 U.S.P.Q. (BNA) 598, 606 (9th Cir. 1985) ("A

### C. Procedures, Processes, Systems and Methods of Operation<sup>301</sup>

No court, however, has quite come to grips with the fundamental question of why any nonliteral program aspect that somehow survives the filtering procedure can be deemed "expressive." Every aspect of a program, literal and nonliteral, is intended by its author to serve the functional purpose of causing the program to perform in some optimal manner in relation to the constraints set by the environment in which it is to be used (including the nature of its intended or expected users).<sup>302</sup>

#### 1. Video Display as a Method of Operation

One of the defining cases in the application of copyright law to computer software is *Lotus Development Corp. v. Borland International, Inc.*<sup>303</sup> In *Lotus*, the First Circuit held that a menu command hierarchy was an unprotected method of operation.<sup>304</sup> Lotus brought a copyright infringement action against Borland despite the fact that Borland had not copied any part of Lotus' computer code.<sup>305</sup> Instead of copying the code, Borland copied the words and structure of the menu command hierarchy to make its screen "compatible" with Lotus 1-2-3.<sup>306</sup> The result of Borland's actions was that consumers who previously used Lotus 1-2-3 "would be able to switch to the Borland programs without having to learn new commands or rewrite their Lotus macros."<sup>307</sup>

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copyright can be forfeited through some overt act which indicates the copyright proprietor's desire to surrender its rights."); *Hadady Corp. v. Dean Witter Reynolds, Inc.*, 739 F. Supp. 1392, 1399, 16 U.S.P.Q.2d (BNA) 1149, 1154 (C.D. Cal. 1990) (copyright on weekly newsletter was abandoned after 2 days as a result of copyright notice which was limited to 2 days).

301. The distinction between procedures, processes, systems and methods of operation is not clear. Indeed, the court in *Gates*, acknowledged that "[f]or our purposes, we consider each of these terms to refer generally to a method for achieving a particular result. For simplicity, we will refer only to 'process.'" 9 F.3d at 836 n.13, 28 U.S.P.Q.2d (BNA) at 1511 n.13. This Article adopts a similar approach and does not attempt to distinguish between a procedure, process, system or method of operation.

302. Dennis S. Karjala, *Copyright Protection of Computer Documents, Reverse Engineering, and Professor Miller*, 19 U. DAYTON L. REV. 975, 987 (1994). But see Arthur R. Miller, *Copyright Protection for Computer Programs, Databases, and Computer-Generated Works: Is Anything New Since CONTU?*, 106 HARV. L. REV. 977 (1993).

303. 49 F.3d 807, 34 U.S.P.Q.2d (BNA) 1014 (1st Cir. 1995), *aff'd by an equally divided court*, 516 U.S. 233 (1996).

304. See *Borland*, 49 F.3d at 815, 34 U.S.P.Q.2d (BNA) at 1024.

305. See *id.* at 810, 34 U.S.P.Q.2d (BNA) at 1016.

306. *Id.*, 34 U.S.P.Q.2d (BNA) at 1016.

307. *Id.*, 34 U.S.P.Q.2d (BNA) at 1016. Interestingly, a supplemental opinion suggested the possibility of a fair use defense as an alternate method of analysis despite the fact that the district court had rejected the fair use argument and found that Borland's programs infringed Lotus' copyright, and enjoined the continued use of certain aspects of Borland's programs. See *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 831 F. Supp. 223 (D. Mass. 1993), *rev'd*, 49 F.3d 807, 34 U.S.P.Q.2d

In response to Borland's actions, the court concluded that, at least where literal copying of a menu command hierarchy was involved, the "initial inquiry should not be whether individual components of a menu command hierarchy are expressive, but rather whether the menu command hierarchy as a whole can be copyrighted."<sup>308</sup> After defining a method of operation as the means by which something is operated,<sup>309</sup> the court reasoned that the menu command hierarchy was different from the related computer code because the "precise formulation" of computer code is not necessary for the operation of the program.<sup>310</sup> Based on this reasoning, the menu command hierarchy, including the words contained therein, was an unprotectable method of operation.<sup>311</sup>

Following the reasoning in the First Circuit's opinion, the failure of the menu commands to obtain copyright protection should also preclude the computer code from copyright protection.<sup>312</sup> Yet such a result creates a disparity within the copyright laws which specifically provide protection to the code of computer programs.<sup>313</sup>

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(BNA) 1014 (1st Cir. 1995), *aff'd*, 516 U.S. 233 (1996).

308. *Borland*, 49 F.3d at 815, 34 U.S.P.Q.2d (BNA) at 1020-21.

309. *See id.*, 34 U.S.P.Q.2d (BNA) at 1021. The First Circuit noted that "[a]s they are not before us on appeal, we take no position on whether [Lotus' screen displays are] copyrightable." *Id.* at 816 n.10, 34 U.S.P.Q.2d (BNA) at 1021 n.10. As the menu commands were in fact displayed on the user interface, presumably the court was referring to the arrangements on the screens and the effect of clicking certain menus/words as opposed to the actual words in the menus, since there is no reason that words on a computer screen should be treated different than words in a book. *Id.* at 810, 34 U.S.P.Q.2d (BNA) at 1016.

310. *Id.* at 816, 34 U.S.P.Q.2d (BNA) at 1021.

311. *Id.* at 815, 34 U.S.P.Q.2d (BNA) at 1024.

312. The reasoning of the First Circuit was, at best, confusing. The menu command hierarchy was expressed on the screen as many different words. Words are clearly expression, so to conclude that the aggregation of words is not copyrightable without analyzing the words themselves appears inconsistent with the copyright law. The analysis of the words on the screens may have shown that the words and their arrangement were not protected, but a prospective outcome fails to justify the decision not to analyze the words. Moreover, while the precise formulation of code is not necessary to obtain certain results, that is no different than possible menu commands before the program is designed. Before the design and manufacture of a computer program is completed, there can be many different menu structures/commands to achieve the same functionality. Once the program is designed, however, the object code controls how the machine operates, and the menu commands provide the user with a way to interact with the code. Just as an individual operates a car by using a steering wheel, an individual operates a computer through the menu commands and the code.

313. *See Sliding Scales*, *supra* note 243, at 336. In short, the analysis undertaken by the First Circuit in *Borland* was faulty. The First Circuit stated that the mere fact that there was some original expression did not prevent that expression from becoming part of an unprotected method of operation. *See Borland*, 49 F.3d at 818, 34 U.S.P.Q.2d (BNA) at 1023. The court recognized that their holding was inconsistent with *Autoskill, Inc. v. Nat'l. Educ. Support Sys., Inc.*, 994 F.2d 1476, 26 U.S.P.Q.2d (BNA) 1828 (10th Cir. 1993). In *Autoskill*, the Tenth Circuit concluded the keying procedure for responding to an audio-visual test was not a method of operation and was therefore

In addition to an examination of the menu commands, the court also considered the question of whether copyright protection applied to Lotus' macros.<sup>314</sup> The court concluded that a macro written by a Lotus user was owned by the writer, and the user should not be forced to write a new macro for Borland's program.<sup>315</sup> However, copyright law expressly allows the owner of a copy of a computer program to make an adaptation—such as a macro—of the program, if the “adaptation is created as an essential step in the utilization of the computer program . . . .”<sup>316</sup> In other words, what the user can do with the macro is limited to use within the program in question.<sup>317</sup>

The First Circuit said that the fact that the “menu command hierarchy is a ‘method of operation’ becomes clearer when one considers program compatibility.”<sup>318</sup> Yet Borland's program had a menu command structure generated independently by Borland, and a menu tree substantially similar to Lotus 1–2–3.<sup>319</sup> As such, the court used “compatibility” not to refer to a necessary method of operation, but to denote the ease with which an individual familiar with Lotus' program could switch to Borland's program.

## 2. Abstractions as a Method of Operation

Courts should limit procedures, processes, systems, and methods of operation to abstractions.<sup>320</sup> Such a limitation would not result in the

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copyrightable.

[T]he record showed that the keying procedure reflected at least a minimal degree of creativity. Further, NESS has not pointed to substantial evidence in the record that this procedure was such a common practice, or that it was dictated by efficiency considerations, so that it should have been filtered out of the analysis.

*Id.* at 1495, n.23, 26 U.S.P.Q.2d (BNA) at 1842, n.23. *Autoskill* indicated that “more than literal application of [§ 102(b)] is required.” *Id.* at 1493, 26 U.S.P.Q.2d (BNA) at 1841 (citing *Toro Co. v. R&R Prods. Co.*, 787 F.2d 1208, 1211–12, 229 U.S.P.Q. (BNA) 282, 284 (8th Cir. 1986) (noting that § 102(b) is “nothing more than a codification of the idea/expression dichotomy as it developed in the case law prior to passage of the 1976 Act.”)).

314. Through macros, “a user can designate a series of command choices with a single macro keystroke.” *Borland*, 49 F.3d at 809, 34 U.S.P.Q.2d (BNA) at 1016.

315. See *id.* at 818, 34 U.S.P.Q.2d (BNA) at 1023.

316. 17 U.S.C. § 117(a)(1) (Supp. V 1999) (emphasis added). For a discussion of 17 U.S.C. § 117 and the various ways courts have applied the statute, see *Telecomm Technical Servs., Inc. v. Siemens Rolm Communications, Inc.*, 66 F. Supp. 2d 1306, 1324–25 (N.D. Ga. 1998).

317. Alternatively, a macro could be considered a derivative work in which the copyright holder of program *A* had given the user of program *A* the right to prepare. See *Quinn v. City of Detroit*, 23 F. Supp. 2d 741 (E.D. Mich. 1998). However, such an arrangement would not give the user of program *A* the right to use the macro with a different program created by a different copyright holder.

318. *Borland*, 49 F.3d at 817, 34 U.S.P.Q.2d (BNA) at 1023.

319. See *id.* at 810, 34 U.S.P.Q.2d (BNA) at 1016.

320. The First Circuit rejected this limitation in *Borland*, noting that “in effect, the district court limited Lotus 1–2–3's ‘method of operation’ to an abstraction.” *Id.* at 816, 34 U.S.P.Q.2d

wholesale copyright protection of computer screens, but would give rise to a more detailed analysis of the nonliteral elements as part of the filtration process. The approach was adopted in *Mitel, Inc. v. Iqtel, Inc.*<sup>321</sup> Rather than following the approach used in *Borland*, the court adopted the "abstraction-filtration-comparison analysis" to determine the copyright protection of computer command codes.<sup>322</sup> However, because the alleged infringement constituted literal copying of a discrete portion of a work, the court "proceed[ed] directly to the protectability analysis that is normally subsumed in the filtration portion of the abstraction-filtration-comparison approach."<sup>323</sup>

In *Lotus Development Corp. v. Paperback Software International*,<sup>324</sup> the court agreed that the utilitarian aspects of a graphical user interface (GUI) were not copyrightable. However, the court did not follow the principle "that every aspect of a user interface that is 'useful' is therefore not copyrightable."<sup>325</sup> Instead, the court held that "[e]lements of expression, even if imbedded in useful articles, are copyrightable if capable of identification and recognition independently of the functional ideas that make the article useful."<sup>326</sup> The defendants argued that Lotus' 1-2-3 menu spreadsheet and macro command facility had set a *de facto* industry standard and that the defendant had no choice but to copy those expressive elements.<sup>327</sup> The court rejected this argument, stating that the allegedly infringing program could have provided for a "translation device" which could have read the Lotus 1-2-3 macros and converted them<sup>328</sup> or an "add-in" to be used in conjunction with another program.<sup>329</sup>

Limiting 17 U.S.C. § 102(b) to abstractions is also consistent with the reasoning in *American Dental Ass'n v. Delta Dental Plans Ass'n*, which held that the American Dental Association's taxonomy of dental procedures and

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(BNA) at 1022; see also *Sliding Scales*, *supra* note 243, at 331-38.

321. 124 F.3d 1366, 44 U.S.P.Q.2d (BNA) 1172 (10th Cir. 1997).

322. *Id.* at 1372, 44 U.S.P.Q.2d (BNA) at 1178.

323. *Id.* at 1373, 44 U.S.P.Q.2d (BNA) at 1178. Cf. *Warren Publ'g, Inc. v. Microdos Data Corp.*, 115 F.3d 1509, 1517, 43 U.S.P.Q.2d (BNA) 1065, 1071-72 (11th Cir. 1997) (stating that a publisher's system of selecting communities for representation in a directory of cable television systems would not be copyrightable as a result of the exclusion in 17 U.S.C. § 102(b) of "systems" from copyright protection). The court added that even if there was not a system of selection involved, the idea of organizing all the communities through selecting the principal communities and cross-referencing the remaining ones merged any expression into the idea. See *Warren Publ'g*, at 1518, 43 U.S.P.Q.2d (BNA) at 1072.

324. 740 F. Supp. 37, 15 U.S.P.Q.2d (BNA) 1577 (D. Mass. 1990).

325. *Id.* at 57, 15 U.S.P.Q.2d (BNA) at 1591.

326. *Id.* at 58, 15 U.S.P.Q.2d (BNA) at 1591.

327. *Id.* at 78, 15 U.S.P.Q.2d (BNA) at 1607-08.

328. *Id.*, 15 U.S.P.Q.2d (BNA) at 1607-08.

329. *Lotus v. Paperback Software*, 740 F. Supp. at 78, 15 U.S.P.Q.2d (BNA) at 1608.

nomenclature was protected by copyright.<sup>330</sup> The Seventh Circuit concluded that section 102(b) was a codification of the principle that copyright protects expression and not facts.<sup>331</sup>

#### *D. Protection Afforded by Copyright Law to Displays on Computer Screens*

In order to determine whether copyright law may protect the displays on computer screens, an analysis must be undertaken of the overall picture displayed in addition to the individual elements which comprise that picture.

Although two different programs can produce the same visual effects on a computer screen,<sup>332</sup> for two other programs the visual effects may not be substantially similar<sup>333</sup> even though the underlying code is substantially similar.<sup>334</sup> As a result, "the computer program copyright connected with a video game is protectable separately from the audio-visual copyright."<sup>335</sup>

330. 126 F.3d 977, 44 U.S.P.Q.2d (BNA) 1296 (7th Cir. 1997).

331. *Id.* at 981, 44 U.S.P.Q.2d (BNA) at 1300. The court explained that "[a] taxonomy is a way of *describing* items in a body of knowledge or practice; it is not a collection or compilation of bits and pieces of 'reality.'" *Id.* at 980, 44 U.S.P.Q.2d (BNA) at 1299 (emphasis in original); *see also O.P. Solutions*, 50 U.S.P.Q.2d (BNA) at 1412, 1415 (after examining "the way that the program works and the manner in which the user operates the program," the court held that the "material displayed in the program's help screens" was "protectable expression"). The court noted that "in each case the decision to use the actual description is original to the ADA, not knuckling under to an order imposed on language by some 'fact' about dental procedures." *American Dental*, at 979, 44 U.S.P.Q.2d (BNA) at 1299. The Seventh Circuit further observed that "[d]ental procedures could be classified by complexity, or by the tools necessary to perform them, or by the parts of the mouth involved, or by the anesthesia employed, or in any of a dozen different ways." *Id.*, 44 U.S.P.Q.2d (BNA) at 1298.

332. *See Bateman*, 79 F.3d at 1544, n.25, 38 U.S.P.Q.2d (BNA) at 1233, n.25.

333. *Sliding Scales*, *supra* note 243, at 383:

The degree of similarity required for liability varies along a continuum depending on the nature of the work. Works written in an environment with multiple expressive options receive broad protection, especially with respect to their distinctively expressive elements. On the other hand, works created in an environment with few expressive options receive relatively thin protection.

334. *See Midway Mfg. Co. v. Strohon*, 564 F. Supp. 741, 749-53, 219 U.S.P.Q. (BNA) 42, 48-52 (N.D. Ill. 1983).

335. *Id.* at 749, 219 U.S.P.Q. (BNA) at 49. Courts have sometimes referred to the video displays produced by computer programs as "audiovisual works," and sometimes as "pictorial, graphic, and sculptural works," each defined in 17 U.S.C. § 101. Pictorial, graphic and sculptural works are defined to include graphic, art, art reproductions, charts, diagrams, models and technical drawings. *See* 17 U.S.C. § 101 (Supp. V 1999).

[T]he design of a useful article, as defined in this section, shall be considered a pictorial, graphic, or sculptural work only if, and only to the extent that, such design incorporates pictorial, graphic, or sculptural features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article.

*Id.* Specifically, audiovisual works are defined as "a series of related images which are intrinsically intended to be shown by the use of machines . . . together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are



In early cases involving screen displays of video games and computers, courts considered the overall picture and individual elements within the displays to determine if there was substantial similarity between the displays.<sup>336</sup> However, the Seventh Circuit cautioned, in *Atari Inc. v. North American Philips Consumer Electronics Corp.*, that “[w]hen analyzing two works to determine whether they are substantially similar, courts should be careful not to lose sight of the forest for the trees.”<sup>337</sup> In following such guidance, *Broderbund Software, Inc. v. Unison World, Inc.*, clarified that when considering whether the works are substantially similar: “The question is whether the infringing work captures the ‘total concept and feel’ of the protected work.”<sup>338</sup>

Subsequent cases have often involved utilitarian works and have established that such works receive weaker copyright protection than highly artistic ones. For instance, in litigation that generated a number of reported decisions, Apple Computer sued Microsoft, alleging that Microsoft had infringed Apple’s copyrighted visual displays and images produced by the Macintosh operating system.<sup>339</sup> In *Apple Computer, Inc. v. Microsoft Corp.*,

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embodied.” *Id. Compare Computer Assocs.*, 982 F.2d at 703 (referring to computer screen displays as audiovisual works), *with Broderbund, Software, Inc. v. Unison World, Inc.*, 648 F. Supp. 1127, 1134, 231 U.S.P.Q. (BNA) 700, 704 (N.D. Cal. 1986) (treating the visual displays of computer programs as pictorial or graphic works). An application for copyright protection of a computer program may include an application for copyright protection for the resulting computer screens. *See* 37 C.F.R. § 202.20(c)(2)(vii)(C) (2000).

336. For instance, in *Midway*, the court, relying on the substantial similarity test, concluded that the visual displays did not infringe the PAC-MAN audiovisual copyright held by Midway, since the “distinctive, copyrightable features of PAC-MAN are not present in CUTE-SEE.” 564 F. Supp. at 747, 219 U.S.P.Q. (BNA) at 47. The court separately held that since the defendant had copied substantial portions of the code on four of the PAC-MAN ROMs, the defendant infringed plaintiff’s copyrighted code. *See id.*, 219 U.S.P.Q. (BNA) at 47.

337. 672 F.2d 607, 618, 214 U.S.P.Q. (BNA) 33, 42 (7th Cir. 1982) (involving a claim that the K. C. Munchkin video game infringed the PAC-MAN game copyright). The Seventh Circuit stated that “the ordinary observer test, in application, must take into account that the copyright laws preclude appropriation of only those elements of the work that are protected by the copyright.” *Id.* at 614, 214 U.S.P.Q. (BNA) at 39.

338. 648 F. Supp. 1127, 1137, 231 U.S.P.Q. (BNA) 700, 706 (N.D. Cal. 1986) (citations omitted). The court also considered the typeface, specific words used, and the “structure, sequence and layout” of the displays, noting they “were dictated primarily by artistic and aesthetic considerations, and not by utilitarian or mechanical ones.” *Id.* at 1134, 231 U.S.P.Q. (BNA) at 704.

339. In *Apple Computer, Inc. v. Microsoft Corp.*, 709 F. Supp. 925, 10 U.S.P.Q.2d (BNA) 1677 (N.D. Cal. 1989), *aff’d*, 35 F.3d 1435, 32 U.S.P.Q.2d (BNA) 1086 (9th Cir. 1994), Microsoft claimed that its visual displays and images were permitted under its License Agreement. The Agreement granted Microsoft a nonexclusive “license to use these derivative works in present and future software programs.” 709 F. Supp. at 927, 10 U.S.P.Q.2d (BNA) at 1678 (citations to record omitted). The district court concluded that the License Agreement allowed Microsoft to use the visual displays and application programs in Windows and in current and future software products, but the terms of the Agreement did not provide Microsoft with an absolute defense. *See id.* at 931,

the district court concluded that an original arrangement of unoriginal, and thus unprotectable, elements of a computer's visual screen display could be copyrightable.<sup>340</sup>

In a subsequent decision, however, the district court said that "the actual arrangement of displays on a computer monitor running any interactive program is largely the product of the user's efforts, negating any claim of the programmer to original authorship."<sup>341</sup> The district court said that a work having "'any intrinsic utilitarian function' can be denied copyright protection, 'except to the extent that its artistic features can be *identified separately and are capable of existing independently* as a work of art.'"<sup>342</sup> The court then examined not the arrangement of displays on the screen, but standardized features.<sup>343</sup>

(1) use of windows to display multiple images on a computer screen and facilitate interaction with the information contained in the windows; (2) use of icons to represent familiar objects from the office environment and facilitate organization of information stored in the computer's memory; (3) manipulation of icons to convey instructions and to control operation of the computer; (4) use of menus to store information or functions of the computers in a place that is convenient to reach, but saves screen space for other images; and (5) opening and closing of objects as a means of retrieving, transferring or storing information.<sup>344</sup>

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10 U.S.P.Q.2d (BNA) at 1681-82. In granting partial summary judgment in favor of Microsoft, the court noted that a license was simply a contract and thereby concluded that a licensee did not infringe a copyright if the action leading to the infringement claim was authorized by the license. *See Apple Computer, Inc. v. Microsoft Corp.*, 717 F. Supp. 1428, 1432, 11 U.S.P.Q.2d (BNA) 1618, 1620 (N.D. Cal. 1989), *aff'd*, 35 F.3d 1435, 32 U.S.P.Q.2d (BNA) 1086 (9th Cir. 1994) (citing *Frank Music Corp. v. MGM, Inc.*, 772 F.2d 505, 511-12, 227 U.S.P.Q. (BNA) 687, 689-90 (9th Cir. 1985); *Gilliam v. ABC, Inc.*, 538 F.2d 14, 192 U.S.P.Q. (BNA) 1 (2d Cir. 1976)).

340. 779 F. Supp. 133, 20 U.S.P.Q.2d (BNA) 1236 (N.D. Cal. 1991).

341. *Apple Computer, Inc. v. Microsoft Corp.*, 799 F. Supp. 1006, 1022, 24 U.S.P.Q.2d (BNA) 1081, 1088 (N.D. Cal. 1992).

342. *Id.* at 1023, 24 U.S.P.Q.2d (BNA) at 1089 (emphasis added) (quoting *Fabrica, Inc. v. El Dorado Corp.*, 697 F.2d 890, 893, 217 U.S.P.Q. (BNA) 698, 700 (9th Cir. 1983) (involving pictorial, graphic, and sculptural works)). The court in *Apple* acknowledged that a "look and feel" test retains some legitimacy, but stated that the test may only be applied after the elements eligible for protection have been identified. 799 F.Supp. at 1026 n.16, 24 U.S.P.Q.2d (BNA) at 1090-91 n.16.

343. *Id.* at 1026, 24 U.S.P.Q.2d (BNA) at 1092. The court said "these are common to all the works in suit, and must be deemed 'ideas' and thus placed beyond the lone province of Apple or any other programmer." *Id.*, 24 U.S.P.Q.2d (BNA) at 1092. In the *Apple* line of cases, the court used "unprotectible" to denote the use of a virtual identity test instead of a substantial similarity test to determine whether a copyright had been infringed. This point was confirmed when the district court stated "[a]lthough the court used the words 'not protectible' to describe its rulings in April, this was not meant to exclude virtually identical copying from being actionable." *Id.* at 1027 n.19, 24 U.S.P.Q.2d (BNA) at 1093 n.19.

344. *See id.* at 1027, 24 U.S.P.Q.2d (BNA) at 1092. The court referred to the Ninth Circuit's

Due to the functional nature of these features, the court held that there would be no infringement unless the features in the two screens were "virtually identical."<sup>345</sup> The court concluded that most of the elements were not protectable<sup>346</sup> under either the scenes a faire or merger doctrine.<sup>347</sup> Only "the gray outline of a moving window, the change in appearance of icons when moving, and any special, non-functional [sic] artistic touches involved with the appearance of windows and icons."<sup>348</sup> were protectable.

On appeal, the Ninth Circuit agreed that the approach of the district court was "on target," stating that "even though GUIs are thought of as the 'look and feel' of a computer, . . . copyright protection extends only to protectable elements of expression."<sup>349</sup> The court then said that once the unprotected elements are identified, and "[w]hen the range of protectable and unauthorized expression is narrow, the appropriate standard for illicit copying is virtual identity."<sup>350</sup>

Of course, any computer display on a video screen could be considered a compilation of unprotected dots. That does not mean that any combination of dots should be considered a compilation subject to a virtual identity test.<sup>351</sup>

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test for copyright infringement. First, a comparison of the underlying ideas of the works for substantial similarity is undertaken using an "extrinsic test" or "objective analysis of expression." *Id.* at 1020, 24 U.S.P.Q.2d (BNA) at 1086 (quoting *Sid & Marty Krofft Tel. Prods. v. McDonald's Corp.*, 562 F.2d 1157, 196 U.S.P.Q. (BNA) 97 (9th Cir. 1977); *Shaw v. Lindheim*, 919 F.2d 1353, 15 U.S.P.Q.2d (BNA) 1516 (9th Cir. 1990)). In addition to analytic dissection, expert testimony may also be utilized. *Apple*, 799 F. Supp. at 1020, 24 U.S.P.Q.2d (BNA) at 1086. If substantial similarity of the ideas is found, an "intrinsic test" or "subjective analysis of expression" by the trier of fact for those portions of a work subject to copyright protection is performed to determine whether the copyrighted work has been infringed. *Id.* at 1020, 24 U.S.P.Q.2d (BNA) at 1086.

345. *Id.* at 1041-42, 24 U.S.P.Q.2d (BNA) at 1102-03.

346. The *Apple* court cited *Feist*, 499 U.S. 340, 18 U.S.P.Q.2d (BNA) 1275 (1991), which involved an arrangement of elements which, individually, would not qualify for copyright protection. The inclusion of *Feist* indicates that the *Apple* court did not mean that if similarity was the result of the arrangement of "unprotectible" features, there could be no infringement. If this is the case, it is not the elements of a work which are protected, but the arrangement of the otherwise unprotectible elements which would be protected by copyright law. Although the court in *Apple* used different terminology than their counterpart in *Computer Associates*, 982 F.2d 693 (2d Cir. 1992), the analytic dissection employed in *Apple* was similar to the filtration test in *Computer Associates*. Additionally, the identification of ideas in *Apple* served the same function as the abstraction test in *Computer Associates*.

347. See *Apple*, 799 F. Supp. at 1022, 24 U.S.P.Q.2d (BNA) at 1088.

348. *Id.* at 1042, 24 U.S.P.Q.2d (BNA) at 1103.

349. *Apple*, 35 F.3d at 1439, 32 U.S.P.Q.2d (BNA) at 1088.

350. *Id.*, 32 U.S.P.Q.2d (BNA) at 1089.

351. In *Apple*, the Ninth Circuit oversimplified matters when it said that *Atari Games Corp. v. Oman*, 979 F.2d 242, 245, 24 U.S.P.Q.2d (BNA) 1933, 1936 (D.C. Cir. 1992), analogized an "audiovisual work like a video game to compilation of facts." 35 F.3d at 1447, 32 U.S.P.Q.2d (BNA) at 1095. However, in *Oman*, the court held that "[a]n audiovisual work is analogous to the compilation of facts . . . in this critical respect: both involve a choice and ordering of elements that, in

Instead, if the combinations result in artistic and/or fictional figures, then the test for copying should be substantial similarity rather than virtual identity. If, however, the combination of dots only form other unoriginal patterns like the lines on a graph, then it is more likely that the test for infringement will be virtual identity.

*Apple v. Microsoft* has essentially propelled courts to rule that if a screen display is not artistic, does not have distinctive icons, and only has a few nondistinctive diagrams for commands;<sup>352</sup> the screen display would not be protected by copyright.<sup>353</sup> The Eleventh Circuit in *MiTek* acknowledged that a screen display could be entitled to copyright protection if the screen display was "original and expressive,"<sup>354</sup> but added that "even a qualitatively small amount of copied material may justify a finding of substantial similarity" of the protected material if it is "sufficiently important," but not if the amount is "*de minimis*."<sup>355</sup> As the court subsequently clarified in *Productivity Software*

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themselves, may not qualify for copyright protection . . . ." 979 F.2d at 245, 24 U.S.P.Q.2d (BNA) at 1936. Nevertheless, the D.C. Circuit disagreed with the Register of Copyright's refusal to register the copyright for the video game because of the "apparent focus on the individual screens, rather than the flow of the game as a whole." *Id.*, 24 U.S.P.Q.2d (BNA) at 1936. Although *Oman* involved a question of whether there was sufficient originality to afford the video game copyright protection, the same reasoning would suggest that two audiovisual works frequently should be compared as a whole under a substantial similarity test, not only the arrangement of the elements under a virtual identity test. Moreover, other courts go so far as to apply the substantial similarity test to compilations. See *EPM Communications*, 56 U.S.P.Q.2d (BNA) at 1148 ("Where, as here, the issue is whether one compilation of facts infringes another, the issue is whether the allegedly infringing competition 'is substantially similar . . . with regard to [the] arrangement of categories or [the] selection of businesses.'") (quoting *Key Publ'ns, Inc. v. Chinatown Today Publ'g Enters.*, 945 F.2d 509, 515, 20 U.S.P.Q.2d (BNA) 1122, 1126 (2d Cir. 1991)).

352. 799 F. Supp. 1006, 24 U.S.P.Q.2d (BNA) 1081.

353. See *id.* at 1022, 24 U.S.P.Q.2d (BNA) at 1088-89.

354. 89 F.3d 1548, 1558, 39 U.S.P.Q.2d (BNA) 1609, 1617 (11th Cir. 1996).

355. *Id.* at 1560, 34 U.S.P.Q.2d (BNA) at 1618. Another way to challenge the look and feel of a competing program might be to argue that the manufacturer is infringing the "trade dress" of the senior manufacturer in violation of § 43(a) of the Lanham Act. 15 U.S.C. § 1125(a) (1994 & Supp. V 1999). See generally Steven Schortgen, Note, "Dressing" Up Software Interface Protection: The Application of Two Pesos to "Look And Feel", 80 CORNELL L. REV. 158 (1994); Lauren Fisher Kellner, Comment, Trade Dress Protection for Computer User Interface "Look and Feel", 61 U. CHI. L. REV. 1011 (1994). In contrast to copyright law, "trade dress is ultimately concerned with consumer confusion and therefore focuses upon the total appearance and image of a product as it is recognized by buyers in the relevant market," rather than the "individual elements" of the product. Schortgen, *supra* at 162. "Individual aspects of a trade dress may be eligible for trademark protection in their own right, but in an action for trade dress infringement each aspect should be viewed in relation to the entire trade dress." *Bristol-Myers Squibb Co. v. McNeil-P.P.C., Inc.*, 973 F.2d 1033, 1042, 24 U.S.P.Q.2d (BNA) 1161, 1167 (2d Cir. 1992). In *Eng'g Dynamics, Inc. v. Structural Software, Inc.*, 785 F. Supp. 576, 584, 21 U.S.P.Q.2d (BNA) 1524, 1529 (E.D. La. 1991), *rev'd on other grounds*, 26 F.3d 1335, 1350, 31 U.S.P.Q.2d (BNA) 1641, 1652-53 (5th Cir. 1994), *supplemented by* 46 F.3d 408, 34 U.S.P.Q.2d (BNA) 1157 (5th Cir. 1995), the district court stated:

Even if the origin and trade dress of SACS is recognizable by some engineers, the market

*International, Inc. v. Healthcare Technologies, Inc.*, “a distinctive computer-generated video character will be afforded the highest level of copyright protection, while a rudimentary form which asks the user ‘to fill in the blank’ will receive a low level of protection.”<sup>356</sup>

An additional example of the extent of copyright protection can be found in *Berkla v. Corel Corp.*<sup>357</sup> Berkla sued Corel for infringing Berkla’s software databases containing electronic images of the components of bushes, flowers, and trees, allowing users to electronically “spray” these elements on the computer screen to create gardens and other landscapes.<sup>358</sup> The court pointed out that the means to depict “a realistic citrus leaf or forget-me-not or clover” are limited.<sup>359</sup> The court concluded that weak copyrights mandated that infringement only be found in instances of near verbatim copying.<sup>360</sup>

In light of these holdings, it should be noted that the fair use doctrine continues to allow individuals to copy a protected work regardless of whether the work maintains strong or weak copyright protection.

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itself is sufficiently sophisticated that such confusion is questionable. . . . Accordingly, protectable trade dress does not reside in the input protocols, output reports, manuals, or look and feel of SACS. Defendants have not violated the Lanham Act.

By way of contrast, see *Computer Care v. Serv. Sys. Enters.*, 982 F.2d 1063, 1070, 25 U.S.P.Q.2d (BNA) 1020, 1025 (7th Cir. 1992) (“Nor does the fact that Computer Care’s customers are ‘sophisticated’ car dealers mean that, as a matter of law, there is no likelihood of confusion.”). The use of a trade dress infringement claim, however, should not succeed with respect to functional screens pursuant to the Supreme Court’s confirmation that “trade dress protection may not be claimed for product features that are functional.” *Traffix Devices, Inc. v. Mktg. Displays, Inc.*, \_\_\_ U.S. \_\_\_, No. 99-1571, 2001 U.S. LEXIS 2457, at \*12 (Mar. 20, 2001).

356. 37 U.S.P.Q.2d (BNA) 1036, (S.D.N.Y. 1995) (citing *MiTek Holdings, Inc. v. Arce Eng’g Co.*, 864 F. Supp. 1568, 1578, 34 U.S.P.Q.2d (BNA) 1417, 1423 (S.D. Fla. 1994)).

357. 66 F. Supp. 2d 1129 (E.D. Cal. 1999).

358. *See id.* at 1132.

359. *Id.* at 1441.

360. *Id.* at 1143. The court in *Berkla* explained that, when using the intrinsic test, the court first dissects the protected elements from the unprotected elements to determine if there is a strong copyright (resulting in a substantial similarity test), or a weak copyright (resulting in a virtual identity test). *See id.* Then the court “looks at the reaction of a reasonable observer—would that observer believe that the works at issue are virtually identical when viewing them as a whole.” *Id.* at 1143 (alternatively, courts undertake an analysis to determine whether the works are substantially similar when a strong copyright is involved). Over time, other courts have described the “extrinsic/intrinsic” test differently. The extrinsic/intrinsic test proceeds in a different order than the “comparison test” used by the Second, Tenth, and Eleventh Circuits. The different interpretations of the extrinsic/intrinsic test are not examined in this Article. Suffice it to say that the name given to the process as a whole is not as important as determining which elements of a work are subject to fair use. Once the unprotected elements of a work are determined, the antitrust ramifications for a monopolist who tries to shield those unprotected elements becomes less convoluted.

### *E. Reverse Engineering of Computer Software Should Constitute Fair Use*

"The fair use doctrine 'permits other people to use copyrighted material without the owner's consent in a reasonable manner for certain purposes.'"<sup>361</sup> Accordingly, the ideas, processes, and concepts contained in computer code must be subject to the fair use doctrine so as "to encourage the creation of original works by protecting the creator's expression, while leaving the ideas, facts and functional concepts in the free marketplace to be built upon by others."<sup>362</sup> As such, the fair use doctrine should authorize reverse engineering of computer software to achieve compatibility and limited modifications of functional computer screens.

#### 1. Fair Use Principles

Copyright law provides that, notwithstanding the exclusive rights granted to the holders of copyrights in 17 U.S.C. §§ 106 and 106A, the fair use doctrine is an affirmative defense to copyright infringement.<sup>363</sup> Section 107 lists four enumerated factors for courts to consider in determining whether a particular use constitutes a fair use. These factors are "illustrative," not definitive, "[n]or may the four statutory factors be treated in isolation, one from another. All are to be explored, and the results weighed together, in light of the purposes of copyright."<sup>364</sup>

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361. *Nihon Keizai Shimbun, Inc. v. Comline Bus. Data, Inc.*, No. 98 Civ. 641 DLC, 1998 U.S. Dist. LEXIS 6806, at \*36 (S.D.N.Y. Apr. 14, 1998) (quoting *Leibovitz v. Paramount Pictures Corp.*, 137 F.3d 109, 45 U.S.P.Q.2d (BNA) 1834, 1837 (2d Cir. 1998)). See, e.g., *Sony Computer Entm't Am., Inc. v. Bleem*, 214 F.3d 1022, 54 U.S.P.Q.2d (BNA) 1753 (9th Cir. 2000). The Ninth Circuit held that a "screen shot" of a Sony game cartridge being played on a television used in advertising to compare it with the quality of the same game being played on a computer with a software emulator constituted fair use. *Id.* at 1029, 54 U.S.P.Q.2d (BNA) at 1759 ("If sales of Sony consoles drop, it will be due to the Bleem emulator's technical superiority over the PlayStation console, not because Bleem used screen shots to illustrate that comparison.").

362. *DSC Communications Corp. v. DGI Techs., Inc.*, 898 F. Supp. 1183, 1191, 37 U.S.P.Q.2d (BNA) 1496, 1502 (N.D. Tex. 1995), *aff'd in part and rev'd in part*, 166 F.3d 772 (5th Cir. 1999).

363. See 17 U.S.C. § 107 (1994 & Supp. V 1999).

364. *Campbell*, 510 U.S. at 577-78, 29 U.S.P.Q.2d at 1965 (involving a parody of the song "Pretty Woman"). According to Nimmer:

Fair-use [sic] decisions must balance broad interests involving both the nature of the use and its impact on the author's economic and other rights. A productive use with minor impact on the market for the original author fits fair-use [sic] concepts. A use copying substantial expression from the first work in a product that competes with the first can never be a fair use.

COMPUTER TECHNOLOGY, *supra* note 240, ¶ 1.22 (stating that a productive use could "include using portions of the original to develop a different type of creative work, such as a criticism parody, or a review of the first work."). In *UMG Recordings, Inc. v. MP3.Com, Inc.*, the district court concluded that MP3.Com's copying of compact disks (CDs) onto its computer servers for replaying to subscribers did not constitute fair use, noting MP3.Com added no "'new aesthetics, new insights and

## 2. Intermediate Copying and Reverse Engineering

The court extensively examined the fair use doctrine as it relates to reverse engineering<sup>365</sup> in *Sega Enterprises v. Accolade, Inc.*<sup>366</sup> In *Sega*, Accolade sought to make its computer game cartridges compatible with Sega's video game machine through reverse engineering.<sup>367</sup> An examination of the first of the four fair use factors found that Accolade's copying was for a commercial purpose. Accolade had copied the object code "solely in order to discover the *functional requirements for compatibility* with the Genesis console—aspects of Sega's programs that are not protected by copyright."<sup>368</sup> Accolade therefore prevailed on the first fair use factor because there was no other method for studying the software compatibility requirements.<sup>369</sup>

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understandings' to the original music recordings it copies." 92 F. Supp. 2d 349, 351, 54 U.S.P.Q.2d (BNA) 1668, 1671 (S.D.N.Y. 2000).

365. "[R]everse engineering . . . [is] 'the process of starting with a finished product and working backwards to analyze how the product operates or it was made.'" Andrew Johnson-Laird, *Software Reverse Engineering in the Real World*, 19 U. DAYTON L. REV. 843 (1994) (quoting *Secure Servs. Tech., Inc. v. Time & Space Processing, Inc.*, 722 F. Supp. 1354, 1361 n.16, 12 U.S.P.Q.2d (BNA) 1617, 1622 n.16 (E.D. Va. 1989)). The reverse engineering of computer software is an often misunderstood process.

First, intermediary copies of the original software must be made and second, to a much larger degree, it is an additive process. The programmer starts with the lowest possible level of abstraction devoid of any higher level information, and then adds personal knowledge and experience. Software reverse engineering is difficult and time consuming. It represents a remedy of last resort for obtaining information not otherwise available. It is not the preferred method for "fast buck" software thieves. Thieves have no need of [sic] reverse engineering; their objective can more easily be accomplished by outright copying of the original diskettes and manuals.

Johnson-Laird, *supra* at 843–44.

366. 977 F.2d 1510, 24 U.S.P.Q.2d (BNA) 1561 (9th Cir. 1992).

367. This Article does not examine the affect that the passage by states of the Uniform Computer Information Transactions Act may have on reverse engineering. *See, e.g.*, Letter from Joan Z. Bernstein, Director, Division of Marketing Practices, Bureau of Consumer Protection, et al., to John L. McClaugherty, Chair, Executive Committee, National Conference of Commissioners on Uniform State Laws (July 9, 1999), *available at* <http://www.ftc.gov/be/v990010.htm>:

By allowing licensors of computer information to expand their rights, there is a possibility that these state-enforced contracts could restrain trade in violation of the antitrust laws, constitute misuse of intellectual property, and/or violate state trade secret statutes. As a result, UCITA may not have a neutral effect on competition policy.

*Cf.* Carlyle C. Ring Jr. & Raymond T. Nimmer, *Series of Papers on UCITA Issues*, *available at* [http://www.nccusl.org/uniformact\\_qanda/uniformacts-q-ucita.htm](http://www.nccusl.org/uniformact_qanda/uniformacts-q-ucita.htm) ("[R]everse engineering of a copyrighted work is governed by federal law, which is not changed by UCITA.").

368. *Sega*, 977 F.2d at 1522, 24 U.S.P.Q.2d (BNA) at 1570 (emphasis added).

369. *See id.*, 24 U.S.P.Q.2d (BNA) at 1569–70. In *Campbell*, the Supreme Court said that if the alleged infringing work was "transformative," or added "something new, with a further purpose or different character, altering the first with new expression, meaning or message," then the purpose and character of use favors the alleged infringer in a fair use analysis. 510 U.S. at 579. If a defendant has simply repackaged or copied a work for profit, that generally will not be fair use. In

Accolade also prevailed on an examination of the second fair use factor,<sup>370</sup> the nature of the copyrighted work, because the court, noting works of fiction receive greater protection than works that have strong functional elements,<sup>371</sup> found that computer programs were utilitarian articles containing unprotected aspects that could not be examined without copying. To that end, the copyright law afforded the program a lower degree of protection than more “traditional” literary works.

However, Sega prevailed on the third factor fair use factor; amount of use. The court noted that Accolade disassembled the entire program.<sup>372</sup>

Finally, Accolade prevailed on the fourth fair use factor, effect of use, even though Sega could suffer some economic loss as a result of the copying. The court said that the identification of the functional requirements for Sega’s compatibility resulted in increased numbers of video game programs, and it was “precisely this growth in creative expression, based on the dissemination of other creative works and the unprotected ideas contained in those works, that the Copyright Act was intended to promote.”<sup>373</sup> Upon completing the fair use analysis, the court rejected Sega’s free-rider argument and held that Accolade’s disassembly and copying of the computer program was a fair use

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contrast, if the “defendant, by way of creative input or interpretation, [has] added value to the work,” it is more likely that the purpose and character of the use will favor the defendant. *Princeton Univ. Press v. Michigan Document Servs.*, 855 F. Supp. 905, 909, 32 U.S.P.Q.2d (BNA) 1045, 1048 (E.D. Mich. 1994), *amended by* 869 F. Supp. 521, 33 U.S.P.Q.2d (BNA) 1638 (E.D. Mich. 1994), *vacated in part*, 99 F.3d 1381, 40 U.S.P.Q.2d (BNA) 1641 (6th Cir. 1996). *See also* *DC Comics, Inc. v. Unlimited Monkey Bus., Inc.*, 598 F. Supp. 110, 119, 224 U.S.P.Q. (BNA) 437, 443–44 (N.D. Ga. 1984). Of course, the character of the use is just one element of the fair use analysis. In fact, the application of fair use to some parodies seems strange, since “[t]ransformative works constitute derivative works.” *COMPUTER TECHNOLOGY*, *supra* note 240, § 1.23 (noting that a copyright holder has the exclusive right to prepare derivative works pursuant to 17 U.S.C. § 106(2) (1994 & Supp. V 1999)). For a detailed analysis of a fair use defense based upon the transformative purpose of the copying, see *L.A. Times v. Free Republic*, 54 U.S.P.Q.2d (BNA) 1453, 1462 (C.D. Cal. 2000) (“[E]ven where copying serves the ‘criticism, comment and news reporting’ purposes highlighted in § 107, its extent cannot exceed what is necessary to the purpose.”) (citation omitted).

370. *See Sega*, 977 F.2d at 1524–26, 24 U.S.P.Q.2d (BNA) at 1571–73.

371. *See id.* at 1524, 24 U.S.P.Q.2d (BNA) at 1571.

372. *Id.* at 1526–27, 24 U.S.P.Q.2d (BNA) at 1572–73 (noting that when the ultimate use is limited, the third factor is of very little weight).

373. *Id.* at 1523, 24 U.S.P.Q.2d (BNA) at 1570 (citing *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349–50, 18 U.S.P.Q.2d (BNA) 1275, 1279–80 (1991)). On the other hand, courts have said “to negate fair use one need only show that if the challenged use ‘should become widespread, it would adversely affect the *potential* market for the copyrighted work.” *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 568, 225 U.S.P.Q. (BNA) 1073, 1084 (1985) (emphasis in original) (quoting *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 451, 220 U.S.P.Q. (BNA) 665, 682 (1984)). In *Harper & Row*, the Supreme Court added that the consideration of the effect of a use on the market “must take account not only of harm to the original but also of harm to the market for derivative works.” 471 U.S. at 568, 225 U.S.P.Q. (BNA) at 1084.



of the copyrighted work.<sup>374</sup>

Although silent on the matter in *Sega*, it appears reasonable for courts to add a fifth fair use factor in many cases: Whether the original work is being used in an attempt to control the market for another product (i.e., making the other product inaccessible or incompatible). Any such attempt appears to be a strong factor favoring a finding of fair use for intermediate copying.<sup>375</sup>

A similar analysis was undertaken in *Atari Games Corp. v. Nintendo of America, Inc.* by the Federal Circuit.<sup>376</sup> Similar to *Sega*, the court held that reverse engineering of computer software could be fair use, but added that fair use reproductions could not exceed what was necessary to understand the unprotected elements of the work in question.<sup>377</sup> Later, in *DSC Communications v. DGI Technologies, Inc.*,<sup>378</sup> the court held that reverse engineering of firmware<sup>379</sup> acquired on the open market constituted a fair use, but that DGI's reverse engineering of improperly acquired operating system software did not constitute a fair use.<sup>380</sup>

374. See *Sega*, 977 F.2d at 1527–28, 24 U.S.P.Q.2d (BNA) at 1573–74 (“[W]here disassembly is the only way to gain access to the ideas and functional elements embodied in a copyrighted computer program and where there is legitimate reason for seeking such access, disassembly is a fair use of the copyrighted work . . .”).

375. Note that 17 U.S.C. § 301(a) (1994) provides, in part, that “all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106 in works of authorship . . . are governed exclusively by this title.” See also Dupont, *supra* note 288, at 38 n.130; Gordon L. Doerfer, *The Limits on Trade Secret Law Imposed by Federal Patent and Antitrust Supremacy*, 80 HARV. L. REV. 1432 (1967) (federal law preempts conflicting state law). Cf. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 476, 181 U.S.P.Q. (BNA) 673, 676 (1974):

A trade secret law, however, does not offer protection against discovery by fair and honest means, such as by independent invention, accidental disclosure, or by so-called reverse engineering, that is by starting with the known product and working backward to divine the process which aided in its development or manufacture.

For additional copyright cases discussing the issue of preemption, see *Crooks v. Certified Computer Consultants, Inc.*, 92 F. Supp. 2d 582 (W.D. La. 2000); *Info. Handling Servs., Inc. v. LRP Publ'ns, Inc.*, 54 U.S.P.Q.2d (BNA) 1571 (E.D. Pa. 2000); *Michaels v. Internet Entm't Group*, 48 U.S.P.Q.2d 1891 (C.D. Cal. 1998); *NBA v. Motorola, Inc.*, 105 F.3d 841, 41 U.S.P.Q.2d (BNA) 1585 (2d Cir. 1997); *United States ex. rel. Berge v. Bd. of Trs. of Univ. of Ala.*, 104 F.3d 1453, 41 U.S.P.Q.2d (BNA) 1481 (4th Cir. 1997); *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 795 F. Supp. 501, 24 U.S.P.Q.2d (BNA) 1469 (D. Mass. 1992).

376. 975 F.2d 832, 24 U.S.P.Q.2d (BNA) 1015 (Fed. Cir. 1992).

377. See *id.* at 843, 24 U.S.P.Q.2d (BNA) at 1023–24.

378. 898 F. Supp. 1183, 37 U.S.P.Q.2d (BNA) 1496 (N.D. Tex. 1995), *rev'd in part*, 166 F.3d 772, 49 U.S.P.Q.2d (BNA) 1641 (5th Cir. 1999).

379. Firmware is “the implementation of software in hardware circuitry or read-only memory.” HARCOURT ACADEMIC PRESS, *DICTIONARY OF SCIENCE AND TECHNOLOGY*, available at <http://www.harcourt.com/dictionary/>.

380. See *DSC Communications*, 898 F. Supp. at 1194, 37 U.S.P.Q.2d (BNA) at 1504–05. See also *Bateman*, 79 F.3d at 1540, n.18, 38 U.S.P.Q.2d (BNA) at 1229, n.18 (agreeing with *Sega* and

In yet another dispute concerning copyright law as it related to the compatibility of computer software, the Ninth Circuit in *Sony Computer Entertainment, Inc. v. Connectix Corp.*<sup>381</sup> relied on its decision in *Sega*<sup>382</sup> to reverse the district court and dissolve the injunction that enjoined Connectix from selling or distributing its software for either Macintosh or Windows-based computer operating systems. The district court ruled that Connectix had improperly copied Sony's basic input-output operating system (BIOS) to develop an emulator program which allowed individuals to play Sony video game cartridges on a computer rather than through Sony's video game console.<sup>383</sup> Reversing the district court, the Ninth Circuit found that because software contains unprotected functional elements, the only way to gain access to an internal program's functional elements that did not produce a screen display was by copying and reverse engineering the program.<sup>384</sup> The

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*Atari* by holding that reverse engineering could be fair use "in view of the principal purpose of copyright—the advancement of science and the arts."). To that end, at least one commentator has argued that computer programs which are distributed in object code create an imbalance in the copyright system because the software owner receives the benefit of copyright protection and the related economic rewards without the public reaping the benefit of having access to the ideas in the work. See Kreiss, *supra* note 249, at 21, 58. Kreiss concludes that "[u]sing fair use to allow competitors to disassemble programs is one of the ways in which the copyright system can right the imbalance that exists with inaccessible, commercialized computer programs." *Id.* at 58. However, Kreiss does not address the enforceability of contractual restrictions on disassembly/reverse engineering of computer programs. *Id.* at 56; see also Peter S. Menell, *An Epitaph for Traditional Copyright Protection of Network Features of Compatible Software*, 43 ANTITRUST BULL. 651, 669, 679 (1998) ("[C]opyright law should not protect network features of computer software. . . . Competitors should be permitted to reverse engineer programs in order to determine how to make interoperable products.").

381. 203 F.3d 596, 53 U.S.P.Q.2d (BNA) 1705 (9th Cir. 2000).

382. The Ninth Circuit also rejected Sony's argument that the sale of the Virtual Game Station tarnished the mark of Sony as related to the PlayStation console under 15 U.S.C. § 1125(c). Examination of Sony's tarnishment claim and the effect that state trade secret laws may have on the court's analysis are outside the scope of this Article. The Ninth Circuit also attempted to distinguish *Sega* by noting that Accolade developed compatible games to operate on the Sega platform, whereas Connectix created a substitute product for Sony's video game console. See *id.* at 604, 53 U.S.P.Q.2d (BNA) at 1710–11. Yet in *Sega*, for every Accolade game purchased, one fewer Sega game may have been purchased. Moreover, Connectix developed a program to make certain computers compatible with Sony games. There should be no difference in a fair use analysis between making software compatible with hardware (*Sega*), and making hardware compatible with software (*Connectix*).

383. Connectix substituted its own operating system, which did not contain any of Sony's copyrighted material, for the BIOS. The district court found that Connectix went beyond using reverse engineering to study concepts behind Sony's copyrighted material, Connectix used reverse engineering to develop a product to rival Sony. See *id.* at 604, 53 U.S.P.Q.2d (BNA) at 1711.

384. *Id.* at 599, 53 U.S.P.Q.2d (BNA) at 1707. The Ninth Circuit said that when only intermediate copying was involved, that is, the final product did not copy any of the original work—the factor considering the amount and substantiality of the use was afforded "very little weight." *Id.* at 606, 53 U.S.P.Q.2d (BNA) at 1712 (quoting *Sega Enters. v. Accolade, Inc.*, 977 F.2d 1510, 1527, 24 U.S.P.Q.2d (BNA) 1561, 1573 (9th Cir. 1992)). Of course, the most basic level of works

court concluded that the nature of Sony's copyrighted work favored Connectix because the unprotected functional aspects contained in the BIOS that could not be examined without copying had a "lower degree of protection than [that available for] more traditional literary works."<sup>385</sup> Sony's argument, that the reverse engineering was unnecessary, was rejected because the necessity "addressed in *Sega* was the necessity of the method, i.e., disassembly, not the necessity of the number of times that method was applied."<sup>386</sup>

The Ninth Circuit's decision appears to reflect the consideration of antitrust principles. At one point the court stated that "Sony understandably seeks control over the market for devices that play games Sony controls or licenses."<sup>387</sup> However, the court concluded that "copyright law . . . does not confer such a monopoly."<sup>388</sup>

### 3. Modifying Copyrighted Works

The fair use defense may be applicable even if a protected work is copied and either modified or transformed. For instance, in *Kelly v. Arriba Soft Corp.*, the plaintiff claimed the images produced by a visual search engine infringed her copyright in the original images.<sup>389</sup> Concluding that the images produced by the visual search engine constituted fair use, the court said the images displayed by the search engine were "transformative," because in

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(e.g., the individual words in a book or the different colors of paint in a painting) are unprotected elements.

385. *Connectix*, 203 F.3d at 603, 53 U.S.P.Q.2d (BNA) at 1710 (quoting *Sega Enters. v. Accolade, Inc.*, 977 F.2d 1510, 1526, 24 U.S.P.Q.2d (BNA) 1561, 1573 (9th Cir. 1992)).

386. 203 F.3d at 603, 53 U.S.P.Q.2d (BNA) at 1711-12. The Ninth Circuit ruled that copying constituted fair use. *Id.* at 609, 53 U.S.P.Q.2d (BNA) at 1715. The court also concluded that the purpose and character of the use was transformative, because "despite the similarities in function and screen output," it contained entirely new (read: different) object code than the Sony console. *Id.* at 607, 53 U.S.P.Q.2d (BNA) at 1713. Of course, whenever only intermediate copying is involved, by definition the end result will be new code. The Ninth Circuit finally concluded the effect of the use on the potential market favored Connectix: "Whereas a work that merely supplants or supersedes another is likely to cause a substantially adverse impact on the potential market of the original, a transformative work is less likely to do so." *Id.* at 607, 53 U.S.P.Q.2d (BNA) at 1713. It is unclear how the court's conclusion would apply to the Virtual Game Station, since its sole purpose would appear to eliminate the need for the Sony console.

387. *Id.*, 53 U.S.P.Q.2d (BNA) at 1714. On remand, the district court "granted summary judgment against Sony Computer Entertainment Inc.'s claims of copyright infringement and violation of the anticircumvention provisions of the Digital Millennium Copyright Act." BUREAU OF NATIONAL AFFAIRS, INC., *Public Interest in New Product Development Hurt Infringement Claim, Favored Fair Use*, 1 COMPUTER TECH. L. REP. 60 (June 2, 2000).

388. *Connectix*, 203 F.3d at 607, 53 U.S.P.Q.2d (BNA) at 1714.

389. 77 F. Supp. 2d 1116, 53 U.S.P.Q.2d (BNA) 1361 (C.D. Cal. 1999). The search engine produced "thumbnail pictures" from other websites in response to queries. *Id.* at 1117, 53 U.S.P.Q.2d (BNA) at 1362.

contrast to the photographs on plaintiff's website, the thumbnail pictures were not aesthetic, but functional—"designed to catalog and improve access to images on the Internet."<sup>390</sup>

Conversely, as held in *Marobie-FL, Inc. v. National Ass'n of Fire & Equipment Distributors*, posting copyrighted work on the Internet without modification or comment does not constitute fair use.<sup>391</sup> The court found that the clip art files "were clearly not placed on the Web Page [sic] for the purposes of criticisms, comment, news reporting, teaching, scholarship, or research."<sup>392</sup> Therefore, the fair use defense was rejected<sup>393</sup> because commercial use of the clip art would presumably have an adverse effect on the market for the copyrighted work.<sup>394</sup>

390. *Id.* at 1119, 53 U.S.P.Q.2d (BNA) at 1364. Although troubled by the display of full-size images removed from the rest of the original webpage, the court concluded "[w]here, as here, a new use and new technology are evolving, the broad transformative purpose of the use weighs more heavily than the inevitable flaws in its early stages of development." *Id.* at 1121, 53 U.S.P.Q.2d (BNA) at 1365. Since the court acknowledged that the full-size images did not have to be displayed, the reason for this deferential approach is not clear. *See id.* at 1120, 53 U.S.P.Q.2d (BNA) at 1364-65. The court then addressed whether the visual search engine violated the DMCA. *See id.* at 1121, 53 U.S.P.Q.2d (BNA) at 1364-65. The court applied 17 U.S.C. § 1202(b)(3) (Supp. V 1999) of the DMCA, which prohibits the distribution of "copies of works, or phonorecords, knowing that copyright management information has been removed or altered without authority of the copyright owner or the law." The court went on to say that the "Plaintiff must show Defendant makes available to its users the thumbnails and full-size images, which were copies of Plaintiff's work, separated from their copyright management information, even though it knows or should know this will lead to infringement of Plaintiff's copyrights." *Kelly*, 77 F. Supp. 2d at 1122, n.10, 53 U.S.P.Q.2d (BNA) at 1366, n.10. The court granted defendant's motion for summary judgment on the DMCA claim on the grounds that defendant did not have reasonable basis to know its action would cause users to infringe the copyright of plaintiff, noting that "Defendant warns its users about the possibility of use restrictions on the images in its index, and instructs them to check with the originating Web sites [sic] before copying . . . ." *Id.*, 53 U.S.P.Q.2d (BNA) at 1366-67.

391. 983 F. Supp. 1167, 45 U.S.P.Q.2d (BNA) 1236 (N.D. Ill. 1997) (posting copyrighted clip art on a webpage). The nonprofit corporation placed the plaintiff's clip art on their webpage and subsequently raised the fair use defense when suit was brought. *Id.* at 1173, 45 U.S.P.Q.2d (BNA) at 1240.

392. *Id.* at 1175, 45 U.S.P.Q.2d (BNA) at 1242.

393. *See id.* at 1176, 45 U.S.P.Q.2d (BNA) at 1243; *see also* *Storm Impact, Inc. v. Software of the Month Club*, 13 F. Supp. 2d 782, 784, 48 U.S.P.Q.2d (BNA) 1266, 1270 (N.D. Ill. 1998) (distribution of a copyrighted product on a trial basis, without authorization, did not constitute fair use); *Sega Enters. v. MAPHIA*, 948 F. Supp. 923, 41 U.S.P.Q.2d (BNA) 1705 (N.D. Cal. 1996) (posting video games on an electronic bulletin board did not constitute fair use); *L.A. Times v. Free Republic*, 54 U.S.P.Q.2d (BNA) 1453 (C.D. Cal. 2000) (posting complete newspaper articles on electronic bulletin board did not constitute fair use); *but see* *Religious Tech. Ctr. v. Netcom On-Line Communication Servs., Inc.*, No. C-95-20091 RMW, 1997 U.S. Dist. LEXIS 23572, at \*12 (N.D. Cal. Jan. 6, 1997) (Internet downloading is considered fair use when an entire file is downloaded without prescreening its contents and where there is no evidence that the download impacts the market for the work).

394. *See Marobie*, 983 F. Supp. at 1176, 45 U.S.P.Q.2d (BNA) at 1243 (citing *Sony Corp. of Am., Inc. v. Universal City Studios, Inc.*, 464 U.S. 417, 451, 220 U.S.P.Q. (BNA) 665, 682 (1984)).

Another rejection of the fair use doctrine has been found for video game enhancements if the enhancement incorporated (i.e. copied) part of the protected work.<sup>395</sup> In *Micro Star v. Formgen, Inc.*, levels of the "Duke Nukem" video game were downloaded from the Internet, put on a CD, and sold commercially.<sup>396</sup> The Ninth Circuit rejected Micro Star's arguments that there was no infringement, finding that a copyright holder had the right to create sequels, and held that Micro Star's work infringed the Duke Nukem story itself, not simply the images.<sup>397</sup> The court added that a book about Duke Nukem would infringe the copyright regardless of whether there were any pictures.<sup>398</sup>

If a program is not copied, copyright infringement will not be found unless another exclusive right is violated. One such exclusive right is the right to create a derivative work. In *Midway Manufacturing v. Artic International*, the Seventh Circuit held that a circuit board that sped up the play of a video game was a derivative work.<sup>399</sup> Since the copyright holder had not authorized the creation of the sped-up version of the video game, the court concluded the use of that circuit board infringed the copyright holder's exclusive right to prepare derivative works; however, the court did not appear

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*Sony* involved noncommercial use of home video tape recorders, rendering *Sony's* presumption of harm inapplicable to *Marobie* as the Supreme Court has held that the presumption of harm to the market with commercial uses is not applicable if the challenged commercial action is other than "mere duplication for commercial purposes." *Campbell*, 510 U.S. 569, 591, 29 U.S.P.Q.2d (BNA) 1961, 1970 (1994).

395. See *Micro Star v. Formgen, Inc.*, 154 F.3d 1107, 48 U.S.P.Q.2d (BNA) 1026 (9th Cir. 1998). A computer video game, Duke Nukem 3D, with 29 different levels was developed by Formgen and came with a feature that enabled players to create additional levels of the game. Formgen encouraged players to create additional levels and even distribute them on the Internet, provided that the new levels are offered for free. See *id.* at 1113, 48 U.S.P.Q.2d (BNA) at 1031.

Commercial-use issues can occur in at least two very different ways. The first . . . occurs where claims are made against a commercial entity whose product enables modification of the performance of a program by the end users of both programs . . . . The second occurs where modified versions of a program are distributed as commercial products. The first of these contexts provides the most difficult copyright issues.

COMPUTER TECHNOLOGY, *supra* note 240, ¶ 1.23[3].

396. See 154 F.3d at 1109, 48 U.S.P.Q.2d (BNA) at 1027.

397. See *id.* at 1110-14, 48 U.S.P.Q.2d (BNA) at 1027-32.

398. See *id.* at 1112, 48 U.S.P.Q.2d (BNA) at 1030. Without explanation, the court said that if Nuke It (the competing video game), could tell a different story, then Nuke It would not incorporate the protected expression. *Id.* at 1112 n.5, 48 U.S.P.Q.2d (BNA) at 1030 n.5. Perhaps the court only meant that there would be no infringement when telling the other story. There may be some incongruity between *Micro Star*, 154 F.3d at 1112, 48 U.S.P.Q.2d (BNA) at 1030, which considered the story as a whole, and *Apple*, 799 F. Supp. at 1026, 24 U.S.P.Q.2d (BNA) at 1091, which refused to consider the overall "look and feel" of the screen.

399. 704 F.2d 1009, 218 U.S.P.Q. (BNA) 791 (7th Cir. 1983).

to consider whether the fair use defense was applicable.<sup>400</sup>

By way of contrast, the Ninth Circuit previously held in *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*, that a program that altered audiovisual displays of Nintendo's games, through the use of a device similar to the circuit board in *Midway*, did not constitute an infringing derivative work.<sup>401</sup> Instead, the court found that by blocking a value sent by Nintendo's game cartridge and substituting a new value, Nintendo's audiovisual displays were enhanced, but the altered display did not incorporate a part of the copyrighted work in a concrete or permanent form.<sup>402</sup> In support, the court pointed out that spell-check software sold separate from word processing software operated "within existing word processors," but did not constitute a derivative work.<sup>403</sup> The Ninth Circuit also stated that, assuming *arguendo* that Galoob's product is a derivative work, the use of the derivative work by consumers for nonprofit activities is a fair use because once consumers purchase a Nintendo game, the fact that the enhanced audiovisual displays "are comprised almost entirely of Nintendo's copyrighted displays does not militate against a finding of fair use."<sup>404</sup>

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400. The court acknowledged "[a] speeded-up [sic] video game is a substantially different product from the original game." *Id.* at 1014, 218 U.S.P.Q. (BNA) at 795. Moreover, it appears as though the manufacturer of the circuit board did not copy the program for the video game into the circuit board. Therefore, it was the ultimate user which put together the circuit board and video game. The court acknowledged that a "speeded-up [sic] phonograph record probably is not [a derivative work]." *Id.*, 218 U.S.P.Q. (BNA) at 794-95. This Article opines that the increased speed of a video game does not appear to be a sufficient basis for concluding, as the Seventh Circuit did, that a faster video game is a derivative work, while increasing the speed of a record does not constitute a derivative work.

401. 964 F.2d 965, 22 U.S.P.Q.2d (BNA) 1857 (9th Cir. 1992).

402. *See id.* at 968, 22 U.S.P.Q.2d (BNA) at 1859.

403. *Id.* at 969, 22 U.S.P.Q.2d (BNA) at 1860.

404. *Id.* at 971, 22 U.S.P.Q.2d (BNA) at 1861. In *Quinn v. City of Detroit*, a supervising attorney in the legal department of the City of Detroit developed a computer program, Litigation Management System ("LMS"), from an application development tool, Professional File, that Quinn purchased. Quinn authorized others in the legal department to use LMS to keep track of their cases, but subsequently withdrew authorization and sued the City of Detroit for making unauthorized copies of LMS. 988 F. Supp. 1044, 1054 (E.D. Mich. 1997). The district court immediately recognized that the case was "likely to become a fertile ground for future copyright litigation. As computer software becomes more powerful and easy to use, lay persons are more able to customize software for their specific purposes." *Id.* at 1054. Eventually, the district court concluded that the source code created by Quinn which formed LMS did meet the originality requirement for copyright protection and that LMS was a derivative work. *Quinn*, 23 F. Supp. 2d 741, 747 (E.D. Mich. 1998). The court added "[t]he fact that the syntax of the source code was dictated by Professional File does not detract from a finding of originality." *Id.* *See also* COMPUTER TECHNOLOGY, *supra* note 240, ¶ 1.23 ("[A]daptations that employ available features in the work itself (e.g., the ability to create macro commands) do not create a derivative work."). However, the court held that "Quinn was implicitly authorized through the purchase of Professional File, as well as explicitly through the Professional File Owner's Manual, to create, use and disseminate applications made with Professional File."

*F. Synthesis of Copyright Law as Applied to Computer Software*

Despite securing copyright protection, a copyrighted work is not completely protected by the shield of copyright law. In certain situations, elements of a copyrighted work can be accessed, copied, or modified. The shield of copyright law may provide less protection if the copyright owner is a monopolist, since a monopolist may not engage in anticompetitive conduct in order to try to maintain its monopoly. Attempts by a monopolist to prevent others from accessing, copying, or modifying the unprotected elements of a copyrighted work may run afoul of section 2 of the Sherman Act.<sup>405</sup> Therefore, this Article turns to an examination of the Sherman Act's regulation of attempts by copyright holders to limit access to, copying of, and modification to copyrighted works.<sup>406</sup> Consistent with the foregoing discussion, this Article also considers the potential of the DMCA to alter the balance between the control of, and access to, computer programs.

## IV. ACCESS AND CONTROL

Dominant organizations should not be allowed to dominate access to and control of their intellectual property.

"[I]n situations involving essential facilities, tying, and similar practices, the vigorous application of antitrust principles complements intellectual property law and helps foster the common goals of both bodies of law—the encouragement of innovation, industry and competition."<sup>407</sup>

"[B]roader assessments should be conducted of the impacts of the anticircumvention provisions of the DMCA as a whole. This broader review of the regulations is justified because of their unprecedented character; their breadth; and widespread concerns that their potential

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*Quinn*, 23 F. Supp. 2d at 749. It is worth noting that without the implicit authorization from the authors of Professional File, Quinn's development of LMS would have prevented LMS from receiving derivative work protection because 17 U.S.C. § 103(a) (1994) provides, in part, that "protection for a work employing preexisting material in which [a] copyright subsists does not extend to any part of the work in which such material has been used unlawfully." However, although the court held that LMS was a derivative work, it also found that Quinn was estopped from withdrawing his consent for others to continue using LMS. See *Quinn*, 23 F. Supp. 2d at 752–53.

405. See *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1216, 44 U.S.P.Q.2d (BNA) 1065, 1080 (9th Cir. 1997).

406. See Zittrain, *supra* note 297, at 1373 (proposing a legislative solution limiting the term of copyright protection for all software to 5 years regardless of market share). This Article focuses on judicially imposed limits on the actions of monopolists—limits which may coexist with Zittrain's proposal.

407. Robert H. Lande & Sturgis M. Sobin, *High Technology, Antitrust & the Regulation of Competition: Reverse Engineering of Computer Software and U.S. Antitrust Law*, 9 HARV. J.L. & TECH. 237 (1996).

for negative impacts on public access to information, on the ability of legitimate users to make noninfringing uses of copyright works, on research and development in security technology, and on competition and innovation in the high-technology sector.”<sup>408</sup>

*A. Immunization From Antitrust Liability is Unavailable for Copyright Owners Through Software Licensing Agreements*

In the Microsoft antitrust litigation, Microsoft argued that its OEM license agreements restated, but did not enlarge upon the protections it was afforded under federal copyright law.<sup>409</sup> However, under copyright law, the computer desktop is not the exclusive real estate of the designer of the operating system.<sup>410</sup> In fact, in light of fair use and the thin copyright protection afforded to functional computer software, software manufacturers enter into license agreements to expand the scope of protection for their programs. It is at this point that the power to address a monopolist’s expansion of control shifts from copyright law to antitrust law.

In the Microsoft antitrust litigation, Microsoft attempted to avoid antitrust law by expanding its thin copyright to “the right to prevent unauthorized modifications of a copyrighted work,”<sup>411</sup> relying on *WGN Continental Broadcasting Co. v. United Video, Inc.*,<sup>412</sup> *Gilliam v. ABC*,<sup>413</sup> and *National*

408. DIGITAL DILEMMA, *supra* note 241, at 223.

409. See Microsoft’s Proposed Conclusions of Law at Part III, *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59, (D.C. Cir. 2000) (No. 98-1232), available at <http://www.microsoft.com/presspass/trial/p-col/col.asp>. At oral argument before the D.C. Circuit, counsel for Microsoft incorrectly asserted that “as a matter of copyright law the licensees are not permitted to make any changes unless they are authorized to do so by their licenses.” Transcript of Oral Arguments before the D.C. Circuit, *U.S. v. Microsoft Corp.*, 2000 U.S. App. LEXIS 25584 (D.C. Cir. Feb. 26, 2001) (No. 00-5212), available at <http://www.microsoft.com/presspass/legalnews.asp>.

410. “There are portions of every copyrighted program, book or play, that one is legally entitled to copy without the author’s permission.” *Sliding Scales* *supra* note 243, at 351. To that end, it appears that the artistic and fanciful nature of video games indicate that copyright holders of the games have a much stronger argument that while the game is displayed on the screen the screen is the copyright holder’s exclusive real estate.

411. Microsoft’s Proposed Conclusions of Law at III(B), *Microsoft*, (No. 98-1232), available at <http://www.microsoft.com/presspass/trial/p-col/col.asp>.

412. 693 F.2d 622, 216 U.S.P.Q. (BNA) 97 (7th Cir. 1982). *WGN* involved the deletion of teletext in the “vertical blanking intervals” of a television signal and substitution of other teletext. The court said there was no question the original “teletext was intended to be viewed in conjunction with the nine o’clock news.” *Id.* at 628, 216 U.S.P.Q. (BNA) at 102. Although the court in *WGN* found there was copyright infringement, it added “our holding is not that WGN ‘owns’ the vertical blanking interval in the programs that it has copyrighted. The copyright is in the programming rather than in the method by which it is transmitted.” *Id.*, 216 U.S.P.Q. (BNA) at 102.

413. 538 F.2d 14, 192 U.S.P.Q. (BNA) 1 (2d Cir. 1976). *Gilliam* is particularly inapplicable because the case involved the copyright law prior to the passage of the Copyright Act of 1976, highly



*Bank of Commerce v. Shaklee Corp.*<sup>414</sup> Despite Microsoft's valiant attempt, none of these three cases involved a monopolist or computer program, and each of the courts assumed or held that the work was an integrated work—one product—not separable elements. Also, the opinions were devoid of a discussion of the fair use doctrine. Finally, each of the three opinions was written prior to the proliferation of cases that held computer programs and functional screens, such as a desktop, were not an integrated, protected whole, but had to be filtered in order to determine which elements were protected by copyright law. Therefore, Microsoft's reliance on these three cases is misguided as the cases are unrelated to the application of copyright law to computer programs or functional computer screens.<sup>415</sup>

Microsoft placed heavy reliance on its argument that a copyright holder is able to preclude the unauthorized modification of its copyrighted work. To the extent that a copyright holder has the exclusive right to prepare derivative works,<sup>416</sup> Microsoft is correct, but if modifications to a computer program or screen amount to neither a derivative work nor a violation of another exclusive right, the copyright holder has no copyright infringement claim. In addition, 17 U.S.C. § 117 expressly allows certain consumers to make modifications of a computer program without the consent of the copyright holder, and, of course, fair use modifications of a computer program are permitted as well.<sup>417</sup>

One of the exclusive rights of a copyright holder is the right to distribute copies of the copyrighted work.<sup>418</sup> Microsoft sought to rely on the opinion in *S.O.S., Inc. v. Payday, Inc.*, in which the Ninth Circuit said that a "licensee infringes the owner's copyright if its use exceeds the scope of its license."<sup>419</sup>

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artistic television programs, and the deletion/editing of over 25% of some of the programs for re-broadcast. *Id.* at 17, 192 U.S.P.Q. (BNA) at 3. The court assumed that all the elements of the productions were protected by copyright, perhaps realistically given the artistic nature of the programs.

414. 503 F. Supp. 533, 207 U.S.P.Q. (BNA) 1005 (W.D. Tex. 1980). *National Bank* involved the addition of advertisements to a book, holding that "an author has a right to protect the integrity of his work and that unauthorized material changes in the work violate the author's rights . . ." *Id.* at 543, 207 U.S.P.Q. (BNA) at 1013. *National Bank* is inapplicable to the Microsoft antitrust litigation because the case did not involve changes to a work which was designed to be modified.

415. A different analysis would need to be undertaken if Microsoft claimed copyright protection in a video game or some other highly artistic display that utilized the whole screen.

416. See 17 U.S.C. § 106 (1994 & Supp. V 1999).

417. See 17 U.S.C. § 107 (1994). An example of such fair use is singing a song in the privacy of one's own home which, though it may be a modification of a copyrighted work, prohibits the copyright holder from prevailing in an infringement action in the United States for such modification.

418. See 17 U.S.C. § 106(3).

419. 886 F.2d 1081, 1087, 12 U.S.P.Q.2d (BNA) 1241, 1246 (9th Cir. 1989). *After* making that statement and *after* concluding that Payday's use of S.O.S.'s software exceeded the scope of the S.O.S. license to Payday, the Ninth Circuit said, "[w]hether these acts, unshielded by any license,

manner violative of the public policy embodied in the grant of a copyright."<sup>427</sup> The Fourth Circuit concluded that the defendant had raised a valid defense of "copyright misuse," as the plaintiff had used its copyright "to control competition in an area outside the copyright . . . regardless of whether such conduct amount[ed] to an antitrust violation."<sup>428</sup> Similarly, in *Practice Management Information Corp. v. American Medical Ass'n*,<sup>429</sup> the Ninth Circuit adopted the copyright misuse defense, agreeing that a defendant did not have to prove an antitrust violation to succeed on a copyright misuse defense.<sup>430</sup>

The copyright misuse defense may also apply to license prohibitions effectively preventing reverse engineering. In *DSC Communications v. DGI Technologies, Inc.*, the license agreement prohibited the licensee from copying the operating system software or using similar software manufactured elsewhere.<sup>431</sup> Adopting the Fourth Circuit's reasoning in *Lasercomb*, the Fifth Circuit said, "DGI may well prevail on the defense of copyright misuse, because DSC seems to be attempting to use its copyright to obtain a patent-like monopoly over unpatented microprocessor cards."<sup>432</sup> After remand, trial,

30, 32 (1942) ("[A] patentee who has granted a license on condition that the patented invention be used by the licensee only with unpatented materials furnished by the licensor, may not restrain as a contributory infringer one who sells to the licensee like materials for like use."); *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 704, 24 U.S.P.Q.2d (BNA) 1173, 1176 (Fed. Cir. 1992) ("[C]oncept of patent misuse arose to restrain practices that did not in themselves violate any law, but that drew anticompetitive strength from the patent right, and thus were deemed to be contrary to public policy.").

427. *Lasercomb*, 911 F.2d at 978, 15 U.S.P.Q.2d (BNA) at 1853.

428. *Id.* at 979, 15 U.S.P.Q.2d (BNA) at 1854. Plaintiff, however, was free to bring a suit for copyright infringement once it had purged itself of the misuse. *See id.* at 979 n.22, 15 U.S.P.Q.2d (BNA) at 1854 n.22.

429. 121 F.3d 516, 43 U.S.P.Q.2d (BNA) 1611 (9th Cir. 1997), *amended by* 133 F.3d 1140 (9th Cir. 1998).

430. *See id.* at 520, 43 U.S.P.Q.2d (BNA) at 1615 ("[T]he AMA misused its copyright by licensing the CPT to HCFA in exchange for HCFA's agreement not to use a competing coding system.").

431. 81 F.3d 597, 599, 38 U.S.P.Q.2d (BNA) 1699, 1700-01 (5th Cir. 1996).

432. *Id.* at 601, 38 U.S.P.Q.2d (BNA) at 1703. *See also* *Bellsouth Adver. & Publ'g Corp. v. Donnelley Info. Publ'g, Inc.*, 933 F.2d 952, 961, 19 U.S.P.Q.2d (BNA) 1345, 1351-52 (11th Cir. 1991), *vacated*, 977 F.2d 1435, 25 U.S.P.Q.2d (BNA) 1319 (11th Cir. 1992), *rev'd*, 999 F.2d 1436, 28 U.S.P.Q.2d (BNA) 1001 (11th Cir. 1993) (declining to extend the patent misuse defense to copyright law because the court did not find a violation of antitrust law and concluding the copyright was not infringed). While ripe for discussion in other cases, the issue of whether copyright misuse short of an antitrust violation may constitute a defense to a copyright infringement action has not been examined. *Compare* *Telecomm Tech. Servs., Inc. v. Siemens Rolm Communications, Inc.*, 66 F. Supp. 2d 1306 (N.D. Ga. 1998), *and* *Willsea v. Theis*, No. 98 Civ. 6773 (BSJ), 1999 U.S. Dist. LEXIS 22471 (S.D.N.Y. Aug. 6, 1999), *and* *Syncsort, Inc. v. Sequential Software, Inc.*, 50 F. Supp. 2d 318, 336 (D.N.J. 1999), *with* *Cass*, *supra* note 248. However, copyright misuse may not even be addressed if antitrust issues are raised as a result of the copyright holder's monopoly power.

In contrast, more recently the Ninth Circuit confirmed that use in excess of a license agreement could constitute a breach of contract without constituting a copyright violation.<sup>420</sup>

License restrictions are simply provisions in a contract between parties which, in contrast to a refusal to license, a court should not presume are either coextensive with the exclusive rights provided by copyright law or valid. Thus, a license restriction may be a monopolist's attempt to enlarge the scope of copyright protection and may thus be invalid.

### *B. Contractual Restrictions in Copyright Licenses*

#### 1. Copyright Misuse

Contractual restrictions in copyright license agreements may constitute copyright abuse or an antitrust violation. In *Saturday Evening Post Co. v. Rumbleseat Press, Inc.*,<sup>421</sup> the court acknowledged that if a particular restriction was used to confer monopoly power beyond the amount that the copyright laws authorized, it could be attacked under section 1 of the Sherman Act.<sup>422</sup> However, the court held that "a no-contest clause in a copyright license agreement is valid unless shown to violate antitrust law."<sup>423</sup>

Other courts have relaxed the *Saturday Evening Post* standard by concluding that a contractual restriction on a copyrighted work does not have to violate the antitrust laws in order to be invalid. In *Lasercomb America, Inc. v. Reynolds*, for instance, a software program developer brought a copyright infringement action.<sup>424</sup> The defendant claimed that the plaintiff had misused its copyright and was therefore ineligible to recover for copyright infringement.<sup>425</sup> By analogy, the Fourth Circuit used the patent misuse defense<sup>426</sup> to frame the issue as "whether the copyright is being used in a

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infringed S.O.S.'s copyrights will be a matter for the district court to determine on remand." *Id.* at 1089, 12 U.S.P.Q.2d (BNA) at 1247. The court further stated that in order to prove copyright infringement, S.O.S. would have "to prove that the modified programs prepared by Payday are substantially similar to S.O.S.'s, so as to make them derivative works rather than new works that would not infringe S.O.S.'s copyright." *Id.* at 1089 n.11, 12 U.S.P.Q.2d (BNA) at 1247 n.11.

420. *See Sun Microsystems, Inc. v. Microsoft Corp.*, 81 F. Supp. 2d 1026, 1033 (N.D. Cal. 2000) "[B]efore Sun can gain the benefits of copyright enforcement, it must definitively establish that the rights it claims were violated are copyright, not contractual, rights." *Id.* at 1031 (quoting *Sun Microsystems, Inc. v. Microsoft Corp.*, 188 F.3d 1115, 1122, 51 U.S.P.Q.2d (BNA) 1825 (9th Cir. 1999)).

421. 816 F.2d 1191, 2 U.S.P.Q.2d (BNA) 1499 (7th Cir. 1987).

422. *See id.* at 1200, 2 U.S.P.Q.2d (BNA) at 1506.

423. *Id.*, 2 U.S.P.Q.2d (BNA) at 1506.

424. 911 F.2d 970, 971, 15 U.S.P.Q.2d (BNA) 1846, 1847-48 (4th Cir. 1990).

425. *See id.* at 972, 15 U.S.P.Q.2d (BNA) at 1848.

426. *See, e.g., Morton Salt Co. v. G. S. Suppiger Co.*, 314 U.S. 488, 491, 52 U.S.P.Q. (BNA)

the issuance of an injunction based on DSC's copyright infringement, and an appeal, the Fifth Circuit reversed that part of the injunction due to a finding of copyright misuse.<sup>433</sup>

Invalidating contractual restrictions on reverse engineering could provide access to protected expression as well as unprotected ideas and access to trade secrets. Thus, arguments persist that contractual restrictions on reverse engineering should not be considered copyright abuse.<sup>434</sup> On the other hand, is the burden properly placed on the copyright holder to shield any of its trade secrets, which are ideas, in a way that would not also allow the copyright holder to shield ideas unprotected by trade secret or copyright law?<sup>435</sup>

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433. See *Alcatel USA, Inc. v. DGI Techs., Inc.*, 166 F.3d 772, 791, 791, 49 U.S.P.Q.2d (BNA) 1641, 1654-55, 1661 (5th Cir. 1999) (noting that DGI had directly infringed Alcatel's copyright by copying the operating software and subsequently engaged in contributory infringement each time the computer, which contained the operating system, was booted up). The Fifth Circuit said "without the freedom to test its cards in conjunction with DSC's software, DGI was effectively prevented from developing its product, thereby securing for DSC a limited monopoly over its uncopyrighted microprocessor cards." *Id.* at 794, 49 U.S.P.Q.2d (BNA) at 1657. In the opinion, the Fifth Circuit referred to *DSC Communications Corp. v. Pulse Communications, Inc.*, 170 F.3d 1354, 50 U.S.P.Q.2d (BNA) 1001 (Fed. Cir. 1999), *cert. denied*, 528 U.S. 923 (1999). In *Pulse Communications*, the Federal Circuit suggested that copyright misuse might be a defense to the prohibition on reverse engineering. The Federal Circuit recognized that Pulse acquired the system and software on the open market and was therefore "an owner of those systems and the associated software, and it was not subject to any restriction on its ownership interest through a licensing agreement or otherwise." *Id.* at 1363, 50 U.S.P.Q.2d (BNA) at 1007. In addition, the Federal Circuit declared that "[c]opyright misuse is a defense to a claim of copyright infringement." *Id.* at 1368, 50 U.S.P.Q.2d (BNA) at 1012; see also Michael T. Hopkins, *Software Licensing and Copyright Misuse*, 17 IPL NEWSLETTER 7, 9 (1999).

434. "[F]ull-blown recognition of copyright misuse would amount to an enforced disclosure of the expressive aspects of the work and could well lead to the destruction of trade secret rights." Marshall Leaffer, *Engineering Competitive Policy and Copyright Misuse*, 19 U. DAYTON L. REV. 1087, 1105 (1994). If the operating system were just copied into RAM to determine if another program was compatible, a type of reverse engineering, trade secrets presumably would not be revealed, whereas if the operating system was disassembled, trade secrets might be revealed. Cf. *DSC Communications Corp. v. DGI Techs., Inc.*, 81 F.3d 597, 600, 38 U.S.P.Q.2d (BNA) 1699, 1701 (5th Cir. 1996) ("DGI could not continue to make copies of the operating system to take back to its lab and study, but it could test its microprocessor card on NTS's phone switch, even though DSC's operating system software would be downloaded into the microprocessor card's RAM.").

435. See Ivan Rothman, *From Sega to Sony and Beyond: An Alternative Legal Basis for Software Reverse Engineering*, 18 IPL NEWSLETTER 6, 7 (2000). Rothman appears to be making this argument in suggesting that copyright misuse is a better basis for justifying reverse engineering than the fair use defense, asking: "[W]hy, then, should the doctrine of fair use be employed to prevent a competitor from accessing and making *whatever use it wants* of unprotected matter embodied in a computer program including use to create a directly competitive and even superseding product, provided such product does not contain infringing code?" *Id.* at 7 (emphasis in original). Although Rothman raises a good question, an answer may be that generally parties have a right to enter into contracts distributing the rights between the parties, and software contracts should be no different. Cf. Cass, *supra* note 248 ("The rights of copyright owners and their ability effectively to contract for licenses that maximize the value of their intellectual property are put at risk by a legal process dependent on picking apart contract provisions *ex post*." (italics added)). Yet when the

## 2. Antitrust Violations

The refusal to license a copyrighted product is presumptively valid under copyright law.<sup>436</sup> Moreover, the predominant view is that "intellectual property licensing allows firms to combine complementary factors of production and is generally procompetitive."<sup>437</sup> However, if the company is a monopolist, the presumption of pro-competitive activity is lost, and the burden shifts to the monopolist<sup>438</sup> to justify many restrictions when licensing copyrighted products.<sup>439</sup>

There are at least two types of contractual prohibitions which should be considered anticompetitive. The first, prohibitions on reverse engineering, prevent discovery of unprotected ideas in a computer program. Prohibitions

copyright holder has monopoly power, the principles of § 2 of the Sherman Act are applicable.

436. See *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 44 U.S.P.Q.2d (BNA) 1065 (9th Cir. 1997); LICENSING GUIDELINES, *supra* note 11, § 3.1. "[I]ntellectual property licensing arrangements are typically welfare-enhancing and procompetitive . . . . The Agencies will not require the owner of intellectual property to create competition in its own technology." *Id.* § 3.1, at 78-79.

437. *Id.* § 2.0, at 73.

438. This is particularly true when the license restrictions restrain competitors and potential competitors of the monopolist. Although the Licensing Guidelines do not address standards for conduct by monopolists, § 4.1.1 of the Licensing Guidelines indicates that license restrictions imposed on a competitor (or potential competitor) maintain added significance. "When a licensing arrangement affects parties in a horizontal [i.e., competitive] relationship, a restraint in that arrangement may increase the risk of coordinated pricing, output restrictions, or the acquisition or maintenance of market power." LICENSING GUIDELINES, *supra* note 11, § 4.1.1, at 93.

439. Cf. LICENSING GUIDELINES, *supra* note 11, § 2.2, at 75-76:

If a patent or other form of intellectual property does confer market power, that market power does not by itself offend the antitrust laws. . . . As in other antitrust contexts, however, market power could be illegally acquired or maintained, or, even if lawfully acquired and maintained, would be relevant to the ability of an intellectual property owner to harm competition through unreasonable conduct in connection with such property.

See Soobert, *supra* note 217, at 89:

[W]here a developer only licenses software in its object code form, no third parties can lawfully access the source code in order to provide maintenance services. This . . . is especially true since most licensing arrangements not only limit access to source code, but also place limits on reverse engineering, and in some instances, even require that the code be kept confidential.

License restrictions are assumed to be valid even though the restrictions can extend beyond the exclusive rights granted by copyright law. The exclusive right of distribution is granted by copyright law. See 17 U.S.C. § 106(3). Therefore, territorial restrictions on distribution should not be more suspect merely because license restrictions, rather than copyright law, set forth the distribution limits. See LICENSING GUIDELINES, *supra* note 11, § 2.3, at 76-77:

Field-of-use, territorial, and other limitations on intellectual property licenses may serve procompetitive ends . . . . These various forms of exclusivity can be used to give a licensee an incentive to invest in the commercialization and distribution of products embodying the licensed intellectual property and to develop additional applications for the licensed property.

on reverse engineering are anticompetitive to the extent that reverse engineering is permitted for certain uses under the fair use doctrine.<sup>440</sup> As such, a prohibition on reverse engineering is an attempt to extend copyright protection beyond the exclusive rights granted to copyright holders under copyright law.<sup>441</sup> A prohibition on reverse engineering stagnates technological developments because competitors are restricted from developing compatible computer products. Therefore, if a company with monopoly power resulting from a copyrighted software product prohibits reverse engineering, that prohibition should be considered anticompetitive.<sup>442</sup>

The second type of contractual prohibition which should be found anticompetitive are excessive restrictions by a monopolist on modifications to a computer screen. When the nonartistic, functional computer screen is designed to be varied by the ultimate consumer, the validity of modification restrictions may justifiably be viewed with skepticism. The screen could have many different appearances depending upon the user and would be largely functional.<sup>443</sup> The addition of a new icon that is functional should not be deemed to create a derivative work<sup>444</sup> because the screen is not a single work, but rather a collection of items, unlike the screen of a highly artistic video game. In addition, there would be no unauthorized copying of the screen because the user would be authorized to display the screen. In short, because restrictions on modifications of functional computer desktops fail to serve a pro-competitive purpose, such restrictions by a monopolist should be deemed

440. See *Sega*, 977 F.2d 1510, 1514, 24 U.S.P.Q.2d (BNA) 1561, 1564 (9th Cir. 1992).

441. *Lasercomb*, 911 F.2d at 976–77, 15 U.S.P.Q.2d (BNA) at 1853–54.

442. See Lande & Sobin, *supra* note 407, (analyzing restrictions on reverse engineering under the essential facilities doctrine). Lande & Sobin conclude:

[T]here may be relatively few instances where efforts to restrain reverse engineering actually give rise to antitrust liability. Nevertheless, in situations involving essential facilities, tying, and similar practices, the vigorous application of antitrust principles complements intellectual property law and helps foster the common goals of both bodies of law—the encouragement of innovation, industry, and competition.

*Id.* at 281. Antitrust liability for restraint of reverse engineering may be so low, in part, because of the difficulty proving that the software is an essential facility. See *id.* at 269 n.135. However, Lande and Sobin did not address whether the reverse engineering prohibition would otherwise constitute substantial barriers to competition and violate § 2 of the Sherman Act. See *United States v. Grinnell Corp.*, 384 U.S. 563 (1966); *Great W. Directories, Inc. v. Southwestern Bell Tel. Co.*, 63 F.3d 1378 (5th Cir. 1995). In other words, restrictions by a monopolist on reverse engineering should be considered anticompetitive and in violation of § 2 regardless of whether the product is essential.

443. See *Apple Computer, Inc. v. Microsoft Corp.*, 799 F. Supp. 1006, 1022, 24 U.S.P.Q.2d (BNA) 1081, 1088 (N.D. Cal. 1992) (“[T]he actual arrangement of displays . . . is largely the product of the user’s efforts, negating any claim of the programmer to original authorship.”).

444. Cf. *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255, 267, 7 U.S.P.Q.2d (BNA) 1281, 1292 (5th Cir. 1988) (“To constitute a derivative work, ‘the infringing work must incorporate in some form a portion of the copyrighted work.’”) (quoting *Litchfield v. Spielberg*, 736 F.2d 1352, 1357, 222 U.S.P.Q. (BNA) 965, 968 (9th Cir. 1984)).

to be anticompetitive.<sup>445</sup>

### C. *The Digital Millennium Copyright Act Limits Access to Protected Works*

#### 1. The DMCA's Prohibitions

Enacted in 1998, the DMCA<sup>446</sup> attacks copyright piracy by prohibiting unauthorized access to protected digital works and the manufacture of devices or programs designed to gain unauthorized access to, or copy, protected digital works.<sup>447</sup> The DMCA's prohibitions marked a significant<sup>448</sup> departure from copyright law, that, historically, had regulated the use of, but not access to,<sup>449</sup> information and had not regulated technology.<sup>450</sup>

In regard to access, section 1201(a)(1)(A) of the DMCA prohibits individuals from circumventing technological measures that control access to copyrighted digital works.<sup>451</sup> Section 1201(a)(2) prohibits manufacturing or

445. Assuming that the material information of the copyright holder was not obliterated.

446. For a detailed examination of the Digital Millennium Copyright Act, see David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 U. PA. L. REV. 673, 680–81 (2000) ("As part of the ceaseless struggle to keep up with constantly evolving technology, this law [the DMCA] proposes to 'make digital networks safe places to disseminate and exploit copyrighted materials.'"); Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to be Revised*, 14 BERKELEY TECH. L.J. 519, 521 (1999) (arguing that "the DMCA was largely unnecessary to implement the WIPO Copyright Treaty because U.S. law already complied with all but one minor provision of that treaty.").

447. The DMCA also contains a provision to preserve the "[i]ntegrity of copyrighted management information," such as the name and other identifying information concerning the author. 17 U.S.C. § 1202 (Supp. V 1999). See, e.g., *Kelly v. Arriba Soft Corp.*, 77 F. Supp. 2d 1116, 53 U.S.P.Q.2d (BNA) 1361 (C.D. Cal. 1999). Another provision in the DMCA states that a "service provider shall not be liable for" copyright infringement. 17 U.S.C. § 512(a). See, e.g., *A&M Records, Inc. v. Napster, Inc.*, 54 U.S.P.Q.2d (BNA) 1746 (N.D. Cal. 2000). An additional provision in the DMCA limits liability for copyright infringement when an "owner or lessee" of a computer makes a copy of a computer program solely for the sake of maintenance or repair. 17 U.S.C. § 117(c). See, e.g., *Beckman Instruments, Inc. v. Cincom Sys., Inc.*, No. 98-55252, 1998 U.S. App. LEXIS 28429 (9th Cir. Nov. 10, 1998).

448. See *Sliding Scales*, *supra* note 243, at 674–75 (stating the DMCA "institutes radical changes").

449. See *id.* at 686, n.66 (stating that the gravamen of the access provision is not copyright infringement because Congress recognized that access provisions are unrelated to copyright law).

450. The DMCA also prohibits technology employed to obtain the protected information. See *id.* at 683. The Audio Home Recording Act of 1992 (AHRA), Pub. L. No. 102-563 (codified as amended in scattered sections of 17 U.S.C. § 1001 et seq. (1994 & Supp. V 1999)), regulates digital audio recording devices, and is beyond the scope of this Article. For an analysis of the AHRA, see Stephanie L. Brauner, *High-Tech Boxing Match: A Discussion of Copyright Theory Underlying the Heated Battle Between the RIAA and MP3ers*, 4 VA. J.L. & TECH. 5 (1999).

451. "No person shall circumvent a technological measure that effectively controls access to a work protected under this title. The prohibition contained in the preceding sentence shall take effect at the end of the 2-year period beginning on the date of the enactment of this chapter . . ." 17 U.S.C. § 1201(a)(1)(A) (Supp. V 1999). Note that this section authorizes the Librarian of Congress

distributing devices that are “primarily designed or produced for the purpose of circumventing a technological measure that effectively controls access” to a copyrighted digital work.<sup>452</sup> In other words, the DMCA prohibits the circumvention of technological measures that block access and the manufacture of devices that circumvent technological measures to block access.<sup>453</sup>

Noticeably, the DMCA does not contain a provision which prohibits the copying of protected works.<sup>454</sup> However, manufacturing or distributing a device or program that is primarily designed to circumvent a technological measure that prevents copying is prohibited.<sup>455</sup>

## 2. Defenses to the DMCA’s Prohibitions

The DMCA recognizes three related affirmative defenses. First, section

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to adopt regulations exempting persons from the prohibitions in § 1201(a)(1)(A) if such persons “are, or are likely to be in the succeeding 3-year period, adversely affected by the prohibition under subparagraph (A) in their ability to make noninfringing uses under this title of a particular class of copyrighted works.” 17 U.S.C. § 1201(a)(1)(C) (Supp. V 1999). In addition, 17 U.S.C. § 1201(d) contains exemptions from the prohibitions of § 1201(a)(1)(A) for nonprofit libraries, archives and educational institutions.

452. 17 U.S.C. § 1201(a)(2)(A). This section also provides:

No person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that—

(A) is primarily designed or produced for the purpose of circumventing a technological measure that effectively controls access to a work protected under this title;

(B) has only limited commercially significant purpose or use other than to circumvent a technological measure that effectively controls access to a work protected under this title; or

(C) is marketed by that person or another acting in concert with that person with that person’s knowledge for use in circumventing a technological measure that effectively controls access to a work protected under this title.

17 U.S.C. § 1201(a)(2)(A)–(C).

453. 17 U.S.C. § 1204 (Supp. V 1999) imposes criminal penalties of up to \$500,000 and/or 5 years imprisonment for violations of 17 U.S.C. § 1201 or 17 U.S.C. § 1202 for commercial advantage or financial gain.

454. The U.S. Copyright Office explained:

Since copying of a work may be a fair use under appropriate circumstances, section 1201 does not prohibit the act of circumventing a technological measure that prevents copying. By contrast, since the fair use doctrine is not a defense to the act of gaining unauthorized access to a work, the act of circumventing a technological measure in order to gain access is prohibited.

U.S. COPYRIGHT OFFICE, THE DIGITAL MILLENNIUM COPYRIGHT ACT OF 1998: U.S. COPYRIGHT OFFICE SUMMARY 4 (1998), available at <http://www.loc.gov/copyright/legislation/dmca.pdf>.

455. See *supra* notes 445, 446. The linguistic differences between 17 U.S.C. § 1201(a)(2) and 17 U.S.C. § 1201(b) are only apparent through an examination of legislative history. See Nimmer, *supra* note 446, at 685 (“[O]ne must revert to the legislative history to gain an idea of Congress’s intent in adopting the language of the statute.”).



1201(c)(1) of the DMCA provides that “nothing in this section shall affect rights, remedies, limitations, or defenses to copyright infringement, including fair use, under this title[,]” yet it does not by its terms create a fair use exemption for manufacturing devices designed to gain access to a protected work.<sup>456</sup>

A second significant defense to the DMCA’s prohibitions is found within section 1201(f)(1). The section provides:

[A] person who has lawfully obtained the right to use a copy of a computer program may circumvent a technological measure that effectively controls access to a particular portion of that program for the sole purpose of identifying and analyzing those elements of the program that are necessary to achieve interoperability of an independently created computer program with other programs, and that have not previously been readily available to the person engaging in the circumvention, to the extent any such acts of identification and analysis do not constitute infringement under this title.<sup>457</sup>

Finally, section 1201(f)(2) allows a person to develop and employ a technological means to circumvent a technological measure “for the purpose of enabling interoperability” with another computer program “to the extent that doing so does not constitute infringement under this title.”<sup>458</sup>

Despite these three defenses, complicated battles plague the DMCA with regard to access and control of computer programs.<sup>459</sup> In fact, the complex and vague nature of many of the provisions has allowed dominant companies to use the DMCA prohibitions as a means of limiting the application of the

456. *Id.* at 716 (citing 17 U.S.C. § 1201(c)(1)); *see also* JANE C. GINSBURG, COPYRIGHT USE AND EXCUSE ON THE INTERNET (Columbia Law School, The Center for Law and Economic Studies, Working Paper No. 178, 2000), *available at* <http://www.law.columbia.edu/law-economicstudies/papers/wp178.pdf> (arguing that the phrase “including fair use” modifies “limitations” rather than copyright infringement defenses while 17 U.S.C. § 1201(c) preserves the fair use defense for anticircumvention).

457. 17 U.S.C. § 1201(f)(1) (Supp. V 1999). Interoperability is “the ability of computer programs to exchange information, and of such programs mutually to use the information which has been exchanged.” 17 U.S.C. § 1201(f)(4) (Supp. V 1999).

458. 17 U.S.C. § 1201(f)(2) (Supp. V 1999).

459. *Cf.* Nimmer, *supra* note 446, at 711–12.

If copyright owners package their “published,” goods in digital envelopes accessible only through passwords, then perhaps they can, indeed, levy a unilateral royalty upon such activities as resales and reviews. . . . [This] demands unprecedented attention to the legal status of such browsing activities as were previously simply beyond practical redress.

*Id.* Circumvention is exacerbated by the exemption which the Librarian of Congress may provide for certain users, pursuant to 17 U.S.C. § 1201(a)(1)(c), which does not by its terms apply to devices designed to circumvent locks. As such, “[i]f the courts apply section 1201 as written, the only users whose interests are truly safeguarded are those few who personally possess sufficient expertise to counteract whatever technological measures are placed in their path.” Nimmer, *supra* note 446, at 739–40.

fair use doctrine by limiting the production of devices that circumvent technology.<sup>460</sup>

#### *D. The DMCA Favors Dominant Companies*<sup>461</sup>

##### 1. Digital Works

As the digital economy has evolved, increased emphasis has been placed on the application of copyright law to digital works. A landmark case, *RealNetworks, Inc. v. Streambox, Inc.*, provided an in-depth examination of issues concerning access to, and modification of, digital works.<sup>462</sup> RealNetworks sold products that allowed owners of audio, multimedia, and video content to put that content on RealMedia files and to “stream” that content over the Internet to consumers who had a RealPlayer—a product of RealNetworks. However, unless the content owner had authorized that particular consumer, through the RealPlayer, to obtain a copy, the content “disappeared” once the consumer played it. RealNetworks claimed that three of Streambox’s products—Streambox VCR, Ripper, and Ferret—violated the

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460. The DMCA is not the only weapon organizations may use in an attempt to control access to their digital works on the Internet. *See, e.g., Ticketmaster Corp. v. Tickets.Com, Inc.*, No. CV99-7654-HLH (BQRx) 2000 U.S. Dist. LEXIS 12987, at \*16 (C.D. Cal. Aug. 11, 2000) (denying a preliminary injunction based on a claim that Tickets.com had trespassed on Ticketmaster’s website).

If the electronic impulses can do damage to the computer or to its function in a comparable way to taking a hammer to a piece of machinery, then it is no stretch to recognize that damage as trespass to chattels . . . . A basic element of trespass to chattels must be physical harm to the chattel (not present here) or some obstruction of its basic function (in the court’s opinion, not sufficiently shown here).

*Id.* *See also* *eBay, Inc. v. Bidder’s Edge, Inc.*, 100 F. Supp. 2d 1058, 1073, 54 U.S.P.Q.2d (BNA) 1798, 1809 (N.D. Cal. 2000) (concluding that eBay was likely to succeed on its claim of trespass against Bidder’s Edge’s use of a robot to search eBay’s auction website and consequently enjoined Bidder’s Edge “from using any automated query program, robot, web crawler or other similar device, without written authorization, to access eBay’s computer systems or networks, for the purpose of copying any part of eBay’s auction database.”). It should be noted that Bidder’s Edge was not enjoined “from utilizing information obtained from eBay’s site other than by automated query program, robot, web crawler or similar device.” *Id.*, 54 U.S.P.Q.2d (BNA) at 1809.

461. *See generally* Samuelson, *supra* note 446.

Hollywood and its allies sought the strongest possible ban both on the act of circumventing a technical protection system used by copyright owners to protect their works and on technologies having circumvention-enabling uses. Silicon Valley firms and their allies opposed this broad legislation . . . . Hollywood and its allies were successful in persuading Congress to adopt the broad anti-circumvention legislation they favored, even if it is now subject to some specific exceptions that respond to some concerns raised by Silicon Valley firms and their allies in the legislative process.

*Id.* at 522–23. Samuelson reports that the Business Software Alliance, of which Microsoft is the principal member, supports Hollywood’s position. *Id.* at 522 n.17.

462. No. C99-2070P, 2000 U.S. Dist. LEXIS 1889 (W.D. Wash. Jan. 18, 2000).

DMCA because they allowed purchasers to access RealNetworks' RealMedia files.<sup>463</sup>

The first product at issue, Streambox VCR, allowed consumers—without the permission of RealNetworks—to gain access to and download RealMedia files. In other words, unlike the streamed files, the downloaded files did not disappear once the consumer played them. The district court concluded that the Streambox VCR was “primarily, if not exclusively, designed to circumvent the access control and copy protection measures”<sup>464</sup> provided by RealNetworks, and had no significant commercial purpose other than circumvention.<sup>465</sup> The court rejected the fair use defense for the Streambox VCR because the Streambox VCR permitted “consumers to obtain and redistribute perfect digital copies of audio and video files that copyright owners have made clear they do not want copied.”<sup>466</sup> Based on the prohibitions contained in section 1201(a) of the DMCA, the court granted a preliminary injunction against the continued sale of the Streambox VCR.<sup>467</sup>

It is important to distinguish the court's holding in *RealNetworks* from that in *Sony Corp. of America v. Universal City Studios, Inc.*<sup>468</sup> In *Sony v. Universal*, the Supreme Court said that the videocassette recording of television shows by consumers constituted fair use because content was time-shifted.<sup>469</sup> The court in *RealNetworks* distinguished *Sony* by noting that the Supreme Court did not undertake an interpretation of the DMCA.<sup>470</sup> The district court concluded that “[u]nder the DMCA, product developers do not have the right to distribute products that circumvent technological measures that prevent consumers from gaining unauthorized access to or making unauthorized copies of works protected by the Copyright Act.”<sup>471</sup>

In fact, Streambox VCR users did have access to the RealMedia files without circumvention, but in streamed—or, in other words, temporary—form. Yet users of video recorders copying television shows (the situation in

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463. *See id.* at \*1–2.

464. *Id.* at \*21.

465. *Id.*

466. *Id.*

467. *See RealNetworks*, 2000 U.S. Dist. LEXIS 1889, at \*26–27.

468. 464 U.S. 417, 220 U.S.P.Q. (BNA) 665 (1984).

469. *See id.*, 224 U.S.P.Q. (BNA) 736 (1984).

470. *See RealNetworks*, 2000 U.S. Dist. LEXIS 1889, at \*22–23.

471. *Id.* at \*22. The district court said that “a given piece of machinery might qualify as a stable item of commerce, with a substantial noninfringing use, and hence be immune from attack under *Sony*’s construction of the Copyright Act—but nonetheless still be subject to suppression under Section 1201.” *Id.* at \*23 (quoting 1 NIMMER ON COPYRIGHT § 12A.18[B] (1999 Supp.)). Read broadly, the district court’s interpretation of the DMCA in *RealNetworks* has the potential to make the fair use defense tenuous for digitally stored information.

*Sony*) also only have access to the copyrighted works in temporary form (viewing on the television screen), until the shows are copied. As the district court noted, what distinguishes *Sony v. Universal* from *RealNetworks* is the addition of the DMCA access prohibitions and the fact that in *Sony v. Universal*, the works were in analog, rather than digital, format.

The second Streambox product to be examined was named Ripper. Ripper allowed consumers to convert files from RealMedia format to other formats and permitted “users to convert files that they have already created or obtained (presumably through legitimate means) from one format to another.”<sup>472</sup> RealNetworks argued that Ripper allowed consumers to prepare unauthorized derivative works.<sup>473</sup> The court rejected this argument on two grounds: First, “Ripper may be used by content owners, including copyright holders, to convert their content from the RealMedia format to other formats;” and second, “Ripper may also be used by consumers to convert audio and video files that they acquired with the content owner’s permission from RealMedia to other formats.”<sup>474</sup> At least a portion of the court’s decision appeared to be based on doubt as to whether the file format was a technological measure to prevent users from copying the work.<sup>475</sup> A separate portion of the opinion analyzed the traditional fair use factor of commercial harm, with the court implicitly concluding that use of the Ripper constituted fair use.<sup>476</sup>

The final Streambox product to be examined was named Ferret. When installed, Ferret was able to produce a modified configuration of RealPlayer’s GUI that contained an added button which could be used to toggle between search engines.<sup>477</sup> In addition, RealNetworks proffered evidence that the

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472. *RealNetworks*, 2000 U.S. Dist. LEXIS 1889, at \*14–15 (“In addition, content which is freely available, such as public domain material and material which users are invited and even encouraged to access and copy, may be converted by the Ripper into a different file format for listening at a location other than the user’s computer.”).

473. *See id.* at \*27.

474. *Id.* at \*27–28.

475. “There is little evidence that content owners use the RealMedia format as a ‘technological measure’ to prevent end-users from making derivative works.” *Id.* at \*28.

476. “As such, these declarations do not suggest that the Ripper’s alleged violations of section 1201(b) will result in any injury to RealNetworks in the form of lost customers or business.” *Id.* at \*29.

477. *See RealNetworks*, 2000 U.S. Dist. LEXIS 1889, at \*15. The court also found that “[t]he use of the Ferret may also result in replacement of the ‘Snap.Com’ [sic] logo that appears on the RealPlayer’s graphical user interface with a ‘Streambox’ logo.” *Id.* “Currently, a company known as Snap! LLC supplies the search services available to end-users through the RealPlayer under a contract with RealNetworks. Under RealNetworks’ contract with Snap, the search bar on the bottom of the RealPlayer’s graphical user interface . . . is emblazoned with Snap’s logo.” *Id.* at \*9. If the addition of Ferret obliterated the Streambox logo for the Snap logo or prevented access to the Snap search engine, issues pertaining to trademark law beyond the scope of this Article may be raised.

installation of Ferret violated its license agreement.<sup>478</sup> Without addressing whether alteration would constitute fair use, the marketing of Ferret was enjoined.

The modification of a copyrighted work or the violation of a computer software license agreement does not necessarily constitute a copyright violation.<sup>479</sup> Since the added button was presumably visually unrelated to the rest of the GUI, it is difficult to understand how the addition of a button to the screen constituted a derivative work, and why the addition did not constitute a fair use.<sup>480</sup>

## 2. Napster Litigation—Encouraging Digital Piracy or Stifling Technology?

### *i. Background of Napster Litigation*

Napster is an online service through which individuals may download digital music files for their own use at no cost. File sharing software (“Napster’s software”) must be downloaded from Napster through its website. The software is free and allows users logged onto Napster to search for and download MP3 files<sup>481</sup> from other Napster users that are currently logged onto Napster. Napster’s software is such that each individual Napster user maintains MP3 files on their hard drive.<sup>482</sup> To that end, downloading an MP3 file copies the file from another Napster user’s hard drive so that the file is never maintained by or transmitted through Napster’s servers.<sup>483</sup>

The record industry sued Napster for contributory copyright infringement and vicarious liability; claiming that Napster encouraged and facilitated massive piracy of copyrighted songs.<sup>484</sup> As Napster’s file sharing software

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478. *See id.* at \*33.

479. An unauthorized distribution, however, would constitute a copyright violation.

480. There was a suggestion in *RealNetworks*, 2000 U.S. Dist. LEXIS 1889, that the addition of the Streambox button may have deleted the Snap.com button or Snap.com logo. Such a deletion would raise a variety of copyright and trademark issues not discussed here.

481. MP3 is short for Moving Picture Expert Group Audio Layer 3. Essentially, the technology allows an audio file to be made “smaller” without a reduction in sound quality. *See* RIAA v. Diamond Multimedia Sys., Inc., 180 F.3d 1072, 1074, 51 U.S.P.Q.2d (BNA) 1115, 1117 (9th Cir. 1999).

482. *See* A&M Records, Inc. v. Napster, Inc., 114 F. Supp. 2d 896, 905–08, 55 U.S.P.Q.2d (BNA) 1780, 1786–87 (N.D. Cal. 2000), *aff’d in part, rev’d in part*, 239 F.3d 1004, 57 U.S.P.Q.2d (BNA) 1729 (9th Cir. 2001). On April 3, 2001, the Ninth Circuit amended three sentences of its February 12, 2001 Opinion that are not relevant to the present discussion. *See* A&M Records, Inc. v. Napster, Inc., No. 00-16403, 2001 U.S. App. LEXIS 5446 (9th Cir. Apr. 3, 2001).

483. *See Napster*, 114 F. Supp. 2d at 901–02, 55 U.S.P.Q.2d (BNA) at 1783.

484. “There can be no doubt that Napster was designed for the purpose of facilitating piracy, and that Napster knows full well that its users are using its services overwhelmingly to trade pirated MP3 files.” Notice of Joint Motion and Joint Motion of Plaintiffs for Preliminary Injunction;

may be used in a variety of ways that do not infringe copyrights, Napster maintained that the record industry was attempting to stifle a new technology that has benefits beyond the transfer of digital music files.<sup>485</sup> Furthermore, Napster presented experts and studies which attempted to prove that file sharing increased the demand for CDs.<sup>486</sup> In response, the record industry presented a myriad of experts and studies demonstrating that record sales were harmed by Napster's service.<sup>487</sup>

## ii. District Court's Opinion; Fair Use

The record industry argued that Napster should be held liable for contributory infringement and/or vicarious liability. Liability for contributory infringement attaches if a defendant "had knowledge of the infringing activity, [and] induces, causes or materially contributes to the infringing conduct of another[.]"<sup>488</sup> A defendant is vicariously liable for copyright infringement if the defendant "has the right and ability to supervise the infringing activity and also has a direct financial interest in such activities."<sup>489</sup> Before examining liability under either test, a court must determine whether a copyright was infringed. Napster argued that copyright law was not violated based on the doctrine of fair use.<sup>490</sup>

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Memorandum of Points and Authorities at 1, *A&M Records, Inc. v. Napster Inc.*, 114 F. Supp. 2d 896, 55 U.S.P.Q.2d (BNA) 1780 (N.D. Cal. 2000) (No. C-99-5183 MHP).

485. Napster claimed that the record companies were asking the courts "to hold that an Internet directory service is liable for uses made by its users; and to extend judicially copyright protection to stifle a new technology." Opposition of Defendant Napster, Inc. to Plaintiffs' Motion for Preliminary Injunction at 1, *A&M Records, Inc. v. Napster Inc.*, 114 F. Supp. 2d 896, 55 U.S.P.Q.2d (BNA) 1780 (N.D. Cal. 2000) (No. C-99-5183 MHP).

486. See *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1017, 57 U.S.P.Q.2d (BNA) 1729, 1736 (9th Cir. 2001). See e.g., Peter S. Fader & Wendy W. Moe, MODELING HEDONIC PORTFOLIO PRODUCTS: A JOINT SEGMENTATION ANALYSIS OF MUSIC CD SALES (Mar. 2000), available at <http://www.bus.utexas.edu/faculty/Wendy.Moe/Music.pdf>.

487. See *Napster*, 239 F.3d at 1016-17, 57 U.S.P.Q.2d (BNA) at 1736-37.

488. *Fonovisa, Inc. v. Cherry Auction, Inc.*, 76 F.3d 259, 264, 37 U.S.P.Q.2d (BNA) 1590, 1594 (9th Cir. 1996) (quoting *Gershwin Publ'g Corp. v. Columbia Artists Mgmt., Inc.*, 443 F.2d 1159, 1162, 170 U.S.P.Q. (BNA) 182, 184-85 (2d Cir. 1971)). See also 3 NIMMER ON COPYRIGHT, *supra* note 286, § 12.04[A][2] (discussing contributory infringement).

489. *Fonovisa*, 76 F.3d at 262, 37 U.S.P.Q.2d (BNA) at 1593 (quoting *Gershwin Publ'g Corp. v. Columbia Artists Mgmt., Inc.*, 443 F.2d 1159, 1162, 170 U.S.P.Q. (BNA) 182, 184 (2d Cir. 1971)). See also discussion of vicarious liability in 3 NIMMER ON COPYRIGHT, *supra* note 286, §12.04[A]. "[T]he boundaries between those two categories [vicarious liability and contributory infringement] are often fluid." *Id.*

490. See *Napster*, 114 F. Supp. 2d at 912, 55 U.S.P.Q.2d (BNA) at 1791. Fair use is codified at 17 U.S.C. § 107 (1994).

Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news

Napster relied on *Sony Corp. of America v. Universal Studios*<sup>491</sup> to support its claim of fair use, arguing “as long as a technology is ‘capable of substantial non-infringing uses,’ a provider making the technology available cannot be liable for copyright infringement, even where it may have encouraged infringing uses and the technology may in fact have been used for infringing activity.”<sup>492</sup>

The ruling in *Sony*, however, was not nearly as broad as Napster implied. *Sony* involved the use of video cassette recorders (VCR) by individuals in their homes to copy television programs. In *Sony*, individual consumers were copying—in their own homes—television programs which the broadcast stations were sending, for free, to the television sets of consumers throughout the country. The factual assumption behind the *Sony* decision was that the consumer was recording the television program for review by that consumer at another time. The Supreme Court observed that “[n]o issue concerning the transfer of tapes to other persons, the use of home-recorded tapes for public performances, or the copying of programs transmitted on pay or cable television systems was raised[.]” in the district court.<sup>493</sup> Furthermore, with the exception of the initial sale of the recorder, “Sony had no direct involvement with any Betamax purchasers who recorded copyrighted works off the air[.]” nor did Sony advertise or encourage such copying.<sup>494</sup>

In contrast, in *Napster*, the issue was not copying within a home, but between homes, or even between continents. Second, unlike the television broadcast networks, record companies depend upon sales to consumers to generate revenue, as opposed to the television programs that are sent to consumers for no charge. Third, Napster provided visitors to its website with direction regarding the procedure for downloading file sharing software and free music. The directions provided by Napster are in direct contrast to *Sony*, which had been silent about copying.

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reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work.

17 U.S.C. § 107.

491. 464 U.S. 417, 220 U.S.P.Q. (BNA) 665 (1984).

492. Opposition of Defendant Napster, Inc. to Plaintiffs’ Motion for Preliminary Injunction at 8, *A&M Records, Inc. v. Napster Inc.*, 114 F. Supp. 2d 896, 55 U.S.P.Q.2d (BNA) 1780 (N.D. Cal. 2000) (No. C-99-5183 MHP).

493. *Sony*, 464 U.S. at 425, 220 U.S.P.Q. (BNA) at 671.

494. *Id.* at 426, 220 U.S.P.Q. (BNA) at 671.

Napster also claimed that file sharing constituted a fair use because “Napster users do not gain a commercial advantage” from at least some of the uses.<sup>495</sup> In analyzing the first fair use factor, the district court acknowledged that the use was “not paradigmatic commercial activity,” but added that “given the vast scale of Napster use among anonymous individuals, the court finds that downloading and uploading MP3 music files with the assistance of Napster are not private uses.”<sup>496</sup> The district court also concluded that since Napster users obtain for free recordings they would otherwise have to purchase, suggested that users “reap economic advantages from Napster use.”<sup>497</sup> The district court, however, did not expressly find that file sharing involved a commercial use, although it clearly weighed the nature of the use against Napster.

The district court disposed of the next two fair use factors easily. The court found that the second and third factors weighed against a finding of fair use because the recordings were “creative in nature,” and the entirety of the sound recordings were copied.<sup>498</sup>

The focus of the district court’s analysis was on the fourth factor; the effect of Napster on the potential market for the copyrighted works.<sup>499</sup> The Supreme Court said in *Sony*: “A challenge to a noncommercial use of a copyrighted work requires proof either that the particular use is harmful, or that if it should become widespread, it would adversely affect the potential market for the copyrighted work.”<sup>500</sup>

The district court found an adverse affect in the market for CD sales among college students and in the market for digital music.<sup>501</sup> Napster argued that the use of the web for music distribution would dramatically increase the market for songs and therefor would stimulate the sale of copyrighted songs.<sup>502</sup> Despite Napster’s expert testimony, it seems intuitive, and the district court found, that widespread copying of music “would adversely affect the *potential* market for their copyrighted works . . . .”<sup>503</sup> The district court added that even if plaintiffs’ sales in certain areas might be enhanced,

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495. Appellant Napster Inc.’s [sic] Emergency Motion to Stay Pursuant to Rule 27-3 and Motion to Expedite Appeal at 14, *A&M Records, Inc. v. Napster Inc.*, 114 F. Supp. 2d 896, 55 U.S.P.Q.2d (BNA) 1780 (N.D. Cal. 2000) (No. C-99-5183 MHP).

496. *Napster*, 114 F. Supp. 2d at 912, 55 U.S.P.Q.2d (BNA) at 1792.

497. *Id.*, 55 U.S.P.Q.2d (BNA) at 1792.

498. *Id.* at 913, 55 U.S.P.Q.2d (BNA) at 1792.

499. *Id.*, 55 U.S.P.Q.2d (BNA) at 1792.

500. *Sony*, 464 U.S. at 451, 220 U.S.P.Q. (BNA) at 682.

501. *See Napster*, 114 F. Supp. 2d at 913, 55 U.S.P.Q.2d (BNA) at 1792.

502. *See Napster*, 239 F.3d at 1017, 57 U.S.P.Q.2d (BNA) at 1736.

503. *Napster*, 114 F. Supp. 2d at 914, 55 U.S.P.Q.2d (BNA) at 1793 (emphasis added).



“courts have rejected the suggestion that a positive impact on sales negates the copyright holder’s entitlement to licensing fees or access to derivative markets.”<sup>504</sup> Therefore, the district court held that file sharing through Napster did not constitute fair use.<sup>505</sup>

*iii. District Court’s Opinion; Digital Millennium Copyright Act*

The Digital Millennium Copyright Act limits the liability of online service providers in certain situations for “transmission, routing, or providing connections for the information, as well as the intermediate and transient copies that are made automatically in the operation of a network.”<sup>506</sup> Napster argued that this provision exempted it from any liability for copyright infringement.<sup>507</sup> Despite the exemption Napster attempted to craft for itself, the district court noted that the safe harbor found in section 512(a) is only applicable to “service provider[’s] ‘transmitting, routing or providing connections for, material *through a system or network* controlled or operated by or for the service provider[.]’”<sup>508</sup> The district court, and later the Ninth Circuit, correctly found that section 512(a) is inapplicable to Napster because the MP3 files were not transmitted through Napster’s server, but directly between users via the Internet.<sup>509</sup>

Napster’s use of the technology—posting the names of copyrighted songs and links to the electronic files maintained by other users—clearly fails the second condition of the DMCA safe harbor for online service providers, which requires that “the transmission, routing, provision of connections, or storage is carried out through an automatic technical process without selection of the material by the service provider[.]”<sup>510</sup> Napster does not simply provide an automatic technical process, but posts information relating to where MP3 files may be obtained for the benefit of online users. “Most importantly, Napster is not an Internet service provider that acts as a mere conduit for the

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504. *Id.*, 55 U.S.P.Q.2d (BNA) at 1793.

505. *Id.* at 915, 55 U.S.P.Q.2d (BNA) at 1794.

506. See U.S. COPYRIGHT OFFICE, THE DIGITAL MILLENNIUM COPYRIGHT ACT OF 1998: U.S. COPYRIGHT OFFICE SUMMARY 10 (1998), available at <http://www.loc.gov/copyright/legislation/dmca.pdf>.

507. There appears to have been no argument raised that Napster qualified for an exemption under the system caching or storage of information at the direction of users provision of the DMCA. Napster specifically argued that § 512(d), pertaining to information location tools (search engines) was inapplicable. See *Napster*, 54 U.S.P.Q.2d (BNA) at 1746 (“Napster also disputes the contention that it organizes files or provides links to other Internet sites in the same manner as a search engine like Yahoo! Consequently, it deems subsection 512(d) inapplicable to its activities.”).

508. *Napster*, 54 U.S.P.Q.2d (BNA) 1746, 1748–49 (quoting 17 U.S.C. § 512(a)) (emphasis added).

509. See *Napster*, 54 U.S.P.Q.2d (BNA) at 1752.

510. 17 U.S.C. § 512(a)(2) (Supp. V 1999).

transfer of files.”<sup>511</sup>

*iv. District Court’s Opinion; Napster Liability and Remedies*

The district court concluded that Napster had actual knowledge of direct copyright infringement through the use of their “proprietary software, search engine, servers, and means of establishing a connection between users’ computers[]” which “materially contributes to the infringing activity.”<sup>512</sup> The district court also found that Napster had “economic incentives for tolerating” the copyright infringement by users, since increasing Napster’s user base would at some point allow Napster to generate revenue.<sup>513</sup> The district court found it particularly persuasive that Napster “inform[ed] the court of its improved methods of blocking users about whom rights holders complain. [The court found this to be] tantamount to an admission that [Napster] can, and sometimes does, police its service.”<sup>514</sup> The district court therefore held that the record industry established a reasonable likelihood of success on contributory infringement and vicarious liability claims.<sup>515</sup>

Napster was thereby “preliminarily enjoined from engaging in, or facilitating others in copying, downloading, uploading, transmitting, or distributing plaintiffs’ copyrighted musical compositions and sound recordings protected by either federal or state law without express permission of the rights owner.”<sup>516</sup> In addition, the court ruled that “[d]efendant must insure [sic] that no work owned by plaintiffs which neither defendant nor Napster users have permission to use or distribute is uploaded or downloaded on Napster.”<sup>517</sup>

*v. The Ninth Circuit; A Middle Ground*

The Ninth Circuit affirmed the district court’s fair use holding, set forth a different analysis for contributory infringement and vicarious liability, and modified the scope of relief to a middle ground.<sup>518</sup> A number of issues remain unanswered by the Ninth Circuit’s ruling, particularly the demarcation

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511. *Napster*, 114 F. Supp. 2d at 919, 55 U.S.P.Q.2d (BNA) at 1797.

512. *Id.* at 920, 55 U.S.P.Q.2d (BNA) at 1798. Rejecting the argument of Napster, the district court said “[t]he law does not require actual knowledge of specific acts of infringement.” *Id.* at 918, 55 U.S.P.Q.2d (BNA) at 1796.

513. *Id.* at 921, 55 U.S.P.Q.2d (BNA) at 1799.

514. *Id.* at 920–21, 55 U.S.P.Q.2d (BNA) at 1798. The district court said that the defendant need not have exercised its ability to supervise in order to be vicariously liable. *Id.* at 921, 55 U.S.P.Q.2d (BNA) at 1798.

515. *See id.* at 920, 922, 55 U.S.P.Q.2d (BNA) at 1798, 1799.

516. *Napster*, 114 F. Supp. 2d at 927, 55 U.S.P.Q.2d (BNA) at 1803.

517. *Id.*, 55 U.S.P.Q.2d (BNA) at 1804.

518. *See Napster*, 239 F.3d 1004, 57 U.S.P.Q.2d (BNA) at 1729.

between technology and the use of technology.

The Ninth Circuit affirmed the determination that the file sharing did not constitute fair use because there was "repeated and exploitative unauthorized copies of copyrighted works . . . to save the expense of purchasing authorized copies."<sup>519</sup> The Ninth Circuit said, "[n]or does positive impact in one market, here the audio CD market, deprive the copyright holder of the right to develop identified alternative markets, here the digital download market."<sup>520</sup>

However, unlike the district court, the Ninth Circuit found that Napster's software had "commercially significant noninfringing uses."<sup>521</sup> Significantly, the Ninth Circuit held "[t]he mere existence of the Napster system, absent actual notice and Napster's demonstrated failure to remove the offending material, is insufficient to impose contributory liability."<sup>522</sup>

The use of technology, rather than the technology itself, contributed to the copyright infringement. The Ninth Circuit concluded "that if a computer system operator learns of specific infringing material available on his system and fails to purge such material from the system, the operator knows of and contributes to direct infringement."<sup>523</sup> This suggests a broad definition of Napster's "system," since the MP3 files are never on Napster's server, but remain on the computers of Napster users.<sup>524</sup> Only the names of the songs and artists are listed on Napster's server. However, the Ninth Circuit could have come to the same result by stating that once Napster is aware that there is infringing activity to which the Napster system contributes, Napster has an obligation to stop contributing to the infringement.<sup>525</sup>

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519. *Id.* at 1015, 57 U.S.P.Q.2d (BNA) at 1735.

520. *Id.* at 1018, 57 U.S.P.Q.2d (BNA) at 1738.

521. *Id.* at 1021, 57 U.S.P.Q.2d (BNA) at 1739.

522. *Id.* at 1027, 57 U.S.P.Q.2d (BNA) at 1745. Presumably if the Napster software had only infringing uses, there would have been more justification for enjoining the software itself. As the Ninth Circuit said, "[t]o enjoin simply because a computer network allows for infringing use would, in our opinion, violate *Sony* and potentially restrict activity unrelated to infringing use." *Id.* at 1021, 57 U.S.P.Q.2d (BNA) at 1740.

523. *Napster*, 239 F.3d at 1021, 57 U.S.P.Q.2d (BNA) at 1740 (emphasis added). The complete test for contributory infringement was set forth by the Ninth Circuit.

[C]ontributory liability may potentially be imposed only to the extent that Napster: (1) receives reasonable knowledge of specific infringing files with copyrighted musical compositions and sound recordings; (2) knows or should know that such files are available on the Napster system; and (3) fails to act to prevent viral distribution of the works.

*Id.* at 1027, 57 U.S.P.Q.2d (BNA) at 1745.

524. The Ninth Circuit also said that "Napster users who upload file names to the search index for others to copy violate plaintiffs' distribution rights." *Id.* at 1014, 57 U.S.P.Q.2d (BNA) at 1734. It is not clear whether the Ninth Circuit really meant that people who list the names of songs, and the artists, they particularly like, are guilty of copyright infringement. It seems what the Ninth Circuit may have meant was that Napster's use of such lists contributes to infringement.

525. Without ruling on the applicability of the limitations on liability for online service

On the question of vicarious liability, the Ninth Circuit said “[t]o escape imposition of vicarious liability, the reserved right to police must be exercised to its fullest extent.”<sup>526</sup> However, later the Ninth Circuit made clear it was referring to the fullest extent of the mechanical design of the system at the time: “Napster’s reserved ‘right and ability’ to police is cabined by the system’s current architecture.”<sup>527</sup>

The Ninth Circuit concluded that “[t]he file name indices, therefore, are within the ‘premises’ that Napster has the ability to police.”<sup>528</sup> The Ninth Circuit also said that Napster maintained “the ability to locate infringing material listed on its search indices, and the right to terminate users’ access to the system.”<sup>529</sup>

### *v. The Line Between Technology and Use of Technology*

The Ninth Circuit in *Napster* made two crucial holdings. First, the file sharing did not constitute fair use and infringes the copyrights of the copyright holders; second, the mere existence of the software and hardware which collectively allowed the file sharing to occur did not violate copyright law (i.e., did not constitute contributory infringement and did not subject anyone to vicarious liability).<sup>530</sup>

When does a company step over the line of having machinery and software which allows or contributes to infringement?<sup>531</sup>

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providers, the Ninth Circuit listed the following questions as examples of why Napster might not meet the limitations on liability in § 512:

- (1) whether Napster is an Internet service provider as defined by 17 U.S.C. § 512(d);
- (2) whether copyright owners must give a service provider “official” notice of infringing activity in order for it to have knowledge or awareness of infringing activity on its system and
- (3) whether Napster complies with § 512(i), which requires a service provider to timely establish a detailed copyright compliance policy.

*Napster*, 239 F.3d at 1025, 57 U.S.P.Q.2d (BNA) 1743. This list of questions is confusing, because § 512(d) does not define service providers and Napster disclaimed reliance on the liability limitation set forth in § 512(d) during the district court proceedings.

526. *Napster*, 239 F.3d at 1023, 57 U.S.P.Q.2d (BNA) at 1742.

527. *Id.* at 1024, 57 U.S.P.Q.2d (BNA) at 1742.

528. *Id.*, 57 U.S.P.Q.2d (BNA) at 1742. As the Ninth Circuit acknowledged, this is itself not an automatic process: “We recognize that the files are user-named and may not match copyrighted material exactly (for example, the artist or song could be spelled wrong). For Napster to function effectively, however, file names must reasonably or roughly correspond to the material contained in the files, otherwise no user could ever locate any desired music.” *Id.* at 1024, 57 U.S.P.Q.2d (BNA) at 1742.

529. *Id.*, 57 U.S.P.Q.2d (BNA) at 1742. Of course, Napster argued that it could not block access.

530. *Id.* at 1017, 57 U.S.P.Q.2d (BNA) at 1736.

531. Hardware and software do not simply exist; they are provided by manufacturers to consumers, retailers and wholesalers who then often communicate with each other. Thus, the Ninth

Under the principles set forth in *Matthew Bender* and *Sony*, where a piece of equipment or software has non-infringing uses, which are not simply a pretext, companies should not be deemed liable for contributory infringement or be subjected to vicarious liability for manufacturing, distributing or maintaining the equipment or software. Thus, the search capabilities of software, the ability of software to interconnect between two computers, and the file sharing capabilities of software (including the functionality of the Napster software), have significant non-infringing uses. Online service providers should not be found liable for distributing or maintaining such software.<sup>532</sup> On the other hand, the posting of the names of artists and songs on Napster's server that Napster knew were copyrighted after the copyright holders had objected to such posting is an affirmative action which encourages infringement and constitutes contributory infringement.<sup>533</sup>

What steps should a company have to take when it is notified that its use of technology is contributing to infringement? A preliminary determination has to be the ability of the company to prevent the infringing conduct: if the company no longer has control over the technology, then the company should not be held liable.<sup>534</sup>

The Ninth Circuit found that "Napster, however, has the ability to locate

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Circuit's statement that the mere existence of the system is not illegal, while important, does not answer the question of what happens when a company installs the equipment or maintains the equipment or other actions are taken with respect to the hardware and software. "Contributory infringement itself is of two types—personal conduct that forms part of or furthers the infringement and contribution of machinery or goods that provide the means to infringe." 3 NIMMER ON COPYRIGHT, *supra* note 286, §12.04[A][2]. In *Matthew Bender & Co. v. West Publ'g Co.*, 158 F.3d 693, 706 (2d Cir. 1998), *cert. denied*, 522 U.S. 3732 (1999), the Second Circuit said "the provision of equipment does not amount to contributory infringement if the equipment is 'capable of substantial noninfringing uses,' including uses authorized under the fair use doctrine." (citations omitted).

532. The Ninth Circuit said "[t]here is no evidence here that plaintiffs seek to control areas outside of their grant of monopoly. Rather, plaintiffs seek to control reproduction and distribution of their copyrighted works, exclusive rights of copyright holders." *Napster*, 239 F.3d at 1027, 57 U.S.P.Q.2d (BNA) at 1745. However, if the district court's decision had been upheld, the record companies would have significantly restricted a technology which they did not like but which was "outside of their grant of monopoly." *Id.*, 57 U.S.P.Q.2d (BNA) at 1745.

533. See *ALS Scan, Inc. v. Remarq Cmtys., Inc.*, 239 F.3d 619, 57 U.S.P.Q.2d (BNA) 1996 (4th Cir. 2001) (discussing sufficient notice to deny an Internet service provider the safe harbor from liability for contributory infringement). Of course, that fact that a safe harbor is not available does not necessarily mean that a service provider will be liable for contributory infringement or subjected to vicarious liability.

534. *Napster*, 2001 U.S. App. LEXIS 5446, at \*49–50, 57 U.S.P.Q.2d (BNA) at 1742 (internal citations omitted).

The district court, however, failed to recognize that the boundaries of the premises that Napster "controls and patrols" are limited. Put differently, Napster's reserved "right and ability" to police is cabined by the system's current architecture. As shown by the record, the Napster system does not "read" the content of indexed files, other than to check that they are in the proper MP3 format.

infringing material listed on its search indices, and the right to terminate users' access to the system."<sup>535</sup> The ability to terminate a user's access to the system and to delete the names of artists and songs from the Napster indices are two different things. A user could enter a different user name through a different computer and re-enter the system. Napster also presumably does not have knowledge concerning which particular user has been downloading a copyrighted music file.

Napster does receive notice from copyright holders indicating which of their recordings they object to being listed on Napster indices. Eliminating the artist and song names from the Napster indices should be sufficient to eliminate claims of vicarious liability and contributory infringement.<sup>536</sup>

If the distinction between technologies and improper uses of technologies blurs, this gives a great advantage to companies which are dominant in the current technologies. If companies with new technologies can be held vicariously liable or held to contribute to infringement by the mere provision of the new technologies to others who infringe, this gives the dominant companies a great advantage. The key, in both *Napster* and future litigation, should be focusing on which actions of the manufacturer—besides simply the provision of the technology—justify holding the manufacturer liable for the acts of others. Courts should be careful not to draw the line to unnecessarily protect existing technologies.

### 3. The Universal Studios DeCSS Litigation

Another line of cases with significant copyright and competition implications is *Universal City Studios, Inc. v. Reimerdes*.<sup>537</sup> At issue was the

535. *Id.* at 1024, 57 U.S.P.Q.2d (BNA) at 1742.

536. Indeed, on remand from the Ninth Circuit, the district court held that once Napster was provided with reasonable notice of copyrighted songs being infringed:

Napster shall, within three (3) business days, prevent such files from being included in the Napster index (thereby preventing access to the files corresponding to such names through the Napster system).

In other words, just remove the names from the Napster index. The district court also required that within three days of such notice, "Napster shall affirmatively search the names of all files being made available by all users at the time those users log on (i.e., prior to the names of files being included in the Napster index) and prevent the downloading, uploading, transmitting or distributing of the noticed copyrighted sound recordings.

*Napster*, No. C 99-05183 MHP, 2001 U.S. Dist. LEXIS 2186 (N.D. Cal. Mar. 5, 2001). What this section appears to mean is that Napster must prevent the names of protected recordings from being put back on the Napster index by the users. If some ingenious Napster users could find a way to use part of the Napster software, such as the file sharing function, to copy songs not listed on the Napster index, that should not result in Napster being held vicariously liable or liable for contributory infringement.

537. 82 F. Supp. 2d 211, 53 U.S.P.Q.2d (BNA) 1780 (S.D.N.Y. 2000) ("*Reimerdes I*")

application of the access and interoperability provisions of the DMCA to the Content Scramble System (CSS) used by movie studios to secure movies recorded in DVD format.<sup>538</sup> The CSS copy protection system is licensed by an affiliate of the movie studios to makers of DVDs and allows a "DVD player or a computer DVD drive to decrypt, unscramble and play back, but not copy, motion pictures on DVDs."<sup>539</sup> The software utility DeCSS was developed to enable "users to break the CSS copy protection system and hence to make and distribute digital copies of DVD movies."<sup>540</sup>

The movie studios brought suit alleging violations of the DMCA by certain individuals who offered DeCSS for downloading from their homepages and other individuals who established links to websites that offered DeCSS.<sup>541</sup> The court issued a preliminary injunction against the defendants who offered DeCSS on their websites, but not against the individuals who maintained sites that merely provided a link to a site that contained DeCSS.<sup>542</sup> The permanent injunction enjoined the defendants from posting DeCSS on the Internet and "knowingly linking any Internet web site [sic] operated by them to any other web site [sic] containing DeCSS, or knowingly maintaining such link, for the purpose of disseminating DeCSS."<sup>543</sup>

### *i. Access*

In issuing a preliminary injunction against the distribution of DeCSS, the court said that "one cannot in the ordinary course gain access to the copyrighted works on plaintiffs' DVDs without a 'player key' issued by the DVD CCA that permits unscrambling the contents of the disks."<sup>544</sup> In other

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(granting a preliminary injunction); 111 F. Supp. 2d 294, 55 U.S.P.Q.2d (BNA) 1873 (S.D.N.Y. 2000) ("*Reimerdes II*") (holding plaintiffs were entitled to permanent injunction); 111 F. Supp. 2d 346 (S.D.N.Y. 2000) ("*Reimerdes III*") (issuing permanent injunction) [hereinafter the "*Reimerdes* cases"]. The *Reimerdes* cases referred to DVDs as digital versatile disks, rather than digital video disks.

538. The DVD format was adopted, in part, to prevent the scenario which has taken place with Napster software. That is, the encryption of the DVD prevents file-sharing of movies via the Internet. A DVD can only be utilized if the "key" to the encrypted DVD is maintained.

539. *Reimerdes I*, 82 F. Supp. 2d at 214, 53 U.S.P.Q.2d (BNA) at 1783.

540. *Id.*, 53 U.S.P.Q.2d (BNA) at 1783. It should be noted that DeCSS users could have acquired DVDs legally.

541. *Id.*, 81 F. Supp. 2d at 213, 53 U.S.P.Q.2d (BNA) at 1783.

542. See *Reimerdes II*, 111 F. Supp. 2d at 312, 55 U.S.P.Q.2d (BNA) at 1882.

543. *Reimerdes III*, 111 F. Supp. 2d at 347.

544. *Reimerdes I*, 82 F. Supp. 2d at 217, 53 U.S.P.Q.2d (BNA) at 1785. In *Reimerdes II*, the court similarly said "[o]ne cannot gain access to a CSS-protected work on a DVD without application of the three keys that are required by the software." 111 F. Supp. 2d at 317, 55 U.S.P.Q.2d (BNA) at 1886.

words, the court interpreted access to mean the authorization to read the digital information, not ownership of the medium on which the digital information is stored.<sup>545</sup>

It is reasonable, however, to interpret access to mean access over the Internet and not the ability to read the contents of a DVD after its purchase. The DMCA does not define access, and one significant purpose of the DMCA is to promote commerce through the Internet.<sup>546</sup> In theory, copyrighted works that are not available through the Internet have not been affected by widespread use and therefore need not rely on the DMCA for protection. Instead, the access provisions of the DMCA can reasonably be interpreted to address the new access issues raised by the Internet as a new medium of distribution. If access is defined as authorized possession of a work in digital format, DeCSS is not a prohibited device.

### ii. Interoperability

Another key decision in the *Reimerdes* litigation was the interpretation of the interoperability provisions of the DMCA. The defendants claimed that DeCSS fell within the “reverse engineering” exception contained in section 1201(f) of the DMCA because DeCSS was “necessary to achieve interoperability between computers running on the Linux system and DVDs.”<sup>547</sup> According to *Reimerdes I*, the exception was not applicable because the “legislative history makes it abundantly clear that Section 1201(f) permits reverse engineering of copyrighted computer programs only and does not authorize circumvention of technological systems that control access to other copyrighted works, such as movies.”<sup>548</sup>

Although the *Reimerdes* litigation concerned movies, the analysis for computers could also apply to DVDs according to the definition of a computer program in the Copyright Act as “a set of statements or instructions to be used

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545. See JANE C. GINSBURG, FROM HAVING COPIES TO EXPERIENCING WORKS: THE DEVELOPMENT OF AN ACCESS RIGHT IN U.S. COPYRIGHT LAW 11–12 (Columbia Law School, Public Law & Legal Theory, Working Paper No. 8, 2000), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=222493](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=222493) (demonstrating the significance of “access to a work” rather than “access to a copy of a work”). Ginsburg also argues that the DMCA prohibits circumvention of technological measures which control access to a “work,” not a copy of a work. See *id.* Under this argument, if an individual owned a DVD and a DVD player, they would have access to the work embedded on the DVD, but perhaps not to the same work for purposes of playing the DVD on a computer with a Linux operating system.

546. The DMCA “creates the legal platform for launching the global digital on-line [sic] marketplace for copyrighted works . . . . It will also encourage the continued growth of the existing off-line global marketplace for copyrighted works in digital format by setting strong international copyright standards.” S. REP. NO. 105-190, at 64 (1998).

547. *Reimerdes I*, 82 F. Supp. 2d at 218, 53 U.S.P.Q.2d (BNA) at 1786.

548. *Id.* (citing S. REP. NO. 105-190 (1998); H.R. REP. NO. 105-551(II) (1998)).



directly or indirectly in a computer in order to bring about a certain result.”<sup>549</sup> To that end, a DVD appears to satisfy the definition of computer program because movies on DVD are simply a set of statements in electronic, digital format that can be played in a computer with a DVD drive.<sup>550</sup>

In *Reimerdes II*, the court said that section 1201(f) “provides in substance that one may circumvent, or develop and employ technological means to circumvent, access control measures in order to achieve interoperability with another computer program provided that doing so does not infringe another’s copyright . . . .”<sup>551</sup> The court also concluded that section 1201(f)(3) only allowed information acquired through reverse engineering to be made available to others by the person who acquired the information, and then solely for the purpose of achieving interoperability.<sup>552</sup>

Section 1201(f)(3) does provide that only the person who performed the reverse engineering may provide the information. However, section 1201(f)(3) does not state that the information can only be provided directly to the individual who needs the information to make her computer program interoperable with another program. In fact, the *Reimerdes* cases show that the person who invented DeCSS did indirectly provide the information, in the form of DeCSS, to others for use in computer programs.

The issue should have been whether the use in question constituted making one computer program interoperable with another. The *Reimerdes II* court said that “even the creators of DeCSS cannot credibly maintain that the ‘sole’ purpose of DeCSS was to create a Linux DVD player.”<sup>553</sup> However, section 1201(f)(2) does not require that the sole purpose of the technology must be to gain interoperability. *Reimerdes II* gave an unduly narrow interpretation to the reverse engineering/interoperability exception in section 1201(f)(2) of the DMCA.<sup>554</sup>

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549. 17 U.S.C. § 101.

550. Based upon the mechanics of DVDs, *Reimerdes*’ rejection of the reverse engineering provisions of § 1201(f) as only applicable to computer programs appears to be misguided.

551. *Reimerdes II*, 111 F. Supp. 2d at 319–20, 55 U.S.P.Q.2d (BNA) at 1888.

552. *See id.* at 320, 55 U.S.P.Q.2d (BNA) at 1888–89.

553. *Id.*, 55 U.S.P.Q.2d (BNA) at 1888. In contrast, 17 U.S.C. § 1201(f)(1), (3) refer to “sole purpose” and “solely for the purpose.”

554. The court acknowledged that “[a]ccess control measures such as CSS do involve some risk of preventing lawful as well as unlawful uses of copyrighted material.” *Reimerdes II*, 111 F. Supp. 2d at 322, 55 U.S.P.Q.2d (BNA) at 1890. However, the court concluded “that Congress elected to leave technologically unsophisticated persons who wish to make fair use of encrypted copyrighted works without the technical means of doing so is a matter for Congress . . . .” *Id.* at 324, 55 U.S.P.Q.2d (BNA) at 1891. While enjoining defendants from continuing to post DeCSS on their website, in light of First Amendment considerations, the court limited its injunction against establishing links to other websites to situations where there was “clear and convincing evidence that those responsible for the link (a) know at the relevant time that the offending material is on the

#### 4. Sony v. GameMasters

The application of the DMCA to add-on programs was the issue in *Sony Computer Entertainment America, Inc. v. GameMasters, Inc.*<sup>555</sup> Sony claimed that GameMasters, violated section 1201(a)(2) of the DMCA by selling “Game Enhancer,” a product that made temporary modifications to the programs used in Sony video games.<sup>556</sup> Game Enhancer also circumvented the geographical restrictions imposed by Sony that “[g]ames not licensed for distribution in the same territory as that of the console’s sale cannot be played on the PlayStation without a device such as the Game Enhancer.”<sup>557</sup>

Without significant discussion, the court concluded that Game Enhancer was a device prohibited by section 1201(a)(2)(A) of the DMCA, even though Game Enhancer users had presumably obtained the Sony video games and video game console through legal means.<sup>558</sup> As such, *GameMaster* followed the lead of *Reimerdes* and implicitly interpreted “access” as the ability to use the infringing program, not the ownership of Game Enhancer itself.<sup>559</sup>

The court also rejected GameMaster’s defense that Sony was attempting to preclude the sale of Game Enhancer because it competed with Sony’s equivalent product, GameShark—a copyright misuse.<sup>560</sup> The court said, “GameShark and the Game Enhancer are not the same product as only the Game Enhancer allows users to play non-authorized, non-territory video games by circumventing the PlayStation’s built in controls.”<sup>561</sup> However, the copyright misuse defense is not based on the identity of two products, but on an attempt by the copyright holder to leverage control from a protected copyrighted product (Sony’s video game) to another product (Sony’s GameShark).<sup>562</sup> The copyright misuse defense is an equitable principle based on the conduct of the copyright holder.<sup>563</sup> Just as the availability of this defense does not depend on whether the defendant is violating copyright law, whether a defendant is violating the DMCA should not affect the applicability of the copyright misuse defense. Indeed, this defense may be one important

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linked-to site, (b) know that it is circumvention technology that may not lawfully be offered, and (c) create or maintain the link for the purpose of disseminating that technology.” *Id.* at 341, 55 U.S.P.Q.2d (BNA) at 1904.

555. 87 F. Supp. 2d 976, 54 U.S.P.Q.2d (BNA) 1401 (N.D. Cal. 1999).

556. *See id.* at 981, 54 U.S.P.Q.2d (BNA) at 1405.

557. *Id.*, 54 U.S.P.Q.2d (BNA) at 1405 (there was no indication in the opinion that the Game Enhancer copied a Sony program).

558. *Id.* at 987–88, 54 U.S.P.Q.2d (BNA) at 1410.

559. *Id.*, 54 U.S.P.Q.2d (BNA) at 1410.

560. *GameMaster*, 87 F. Supp. 2d at 987–88, 54 U.S.P.Q.2d (BNA) at 1410.

561. *See id.* at 989, 54 U.S.P.Q.2d (BNA) at 1411.

562. *Id.* at 987–88, 54 U.S.P.Q.2d (BNA) at 1409–10.

563. *See Lasercomb*, 911 F.2d at 978, 15 U.S.P.Q.2d (BNA) at 1851–52.

way to reduce the harshness of the provisions of the DMCA that do not grant a fair use defense for violations of section 1201(a)(2).

#### 5. Interpreting the Fair Use and Interoperability Provisions of the DMCA to Promote Competition

Legal possession of a digital work should permit an individual to circumvent technological measures where the information would otherwise be subject to the fair use doctrine. Courts should also allow individuals to develop devices enabling individuals with legal access to a digital work to circumvent technological measures preventing use of the work. The definition of "access" is pivotal to section 1201(a), and courts should interpret "access" as the legal possession of the digital work.

Another pivotal DMCA term is "interoperability" in section 1201(f). It is unclear whether section 1201(f) means that a technological measure can be circumvented only to the extent necessary to understand how programs could operate together, or that the technological measure can be circumvented on an ongoing basis. If the former, section 1201(f)(2) would be irrelevant. Section 1201(f)(2) authorizes the use of technological means to circumvent a technological measure controlling access, not just to identify and analyze what is necessary to achieve interoperability, but "for the purpose of enabling interoperability of an independently created computer program with other programs."<sup>564</sup>

In order to promote competition, the courts should interpret the DMCA to allow computer programs to circumvent blocking mechanisms on an ongoing basis so that a computer program can operate with another computer program. This provision should apply to all parts of a computer system, including peripheral devices and DVDs.<sup>565</sup>

The DMCA is silent on the development of "digital locks" by a monopolist that prevent the development of products that are compatible with the monopolist's product. Although the DMCA prohibits the construction of devices that circumvent "lock-out" mechanisms,<sup>566</sup> the prohibition does not legalize lock-out mechanisms; it may just require access to be gained without circumvention of technological devices. The resolution is dependent upon whether the company blocking access is a monopolist. If so, an antitrust action for taking anticompetitive actions may be proper.<sup>567</sup> On the other hand,

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564. See 17 U.S.C. § 1201(f)(2) (Supp. V 1999).

565. The entire computer system would include more than a single operating system being allowed to communicate with another operating system.

566. See 17 U.S.C. § 1201(a), (b) (Supp. V 1999).

567. Competition is stifled because the monopolist is making its products incompatible with the products of other companies in order to defeat competition. Digital locks should be no more

if the lock prevents others from “stealing” stored data, the lock may be a product improvement and is therefore pro-competitive. However, if the lock only prevents interoperability, the monopolist’s conduct should be deemed anticompetitive<sup>568</sup> because the DMCA neither exempts monopolists from antitrust laws nor authorizes companies to design products; the DMCA simply limits the technologies other companies can use in reaction to such locks.<sup>569</sup>

## V. CONCLUSION

Courts should interpret antitrust and copyright law to provide broad access to the new digital world. Contract restrictions imposed by monopolists that unnecessarily restrict competition, and attempts by a monopolist to enforce others to refuse to deal, constitute anticompetitive conduct. Also, courts should hold that the DMCA does not exempt monopolists who put anticompetitive digital or mechanical “locks” on computer programs from the Sherman Act.

Copyright law should permit reverse engineering and the copying of elements of computer code to the extent necessary to make a computer program compatible with the program of the monopolist, and, in certain cases, should permit the modification by third parties of the unprotected elements of screen displays. Finally, courts should interpret the DMCA prohibitions narrowly enough to protect the right to sell devices that enable computer programs to operate together.

In short, courts should not lock control in the hands of a few dominant

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immune from antitrust scrutiny than “mechanical” changes in the design of a product. *See* N.E. Tel. Co. v. AT&T, 651 F.2d 76 (2d Cir. 1981); C.R. Bard, Inc. v. M3 Sys., Inc, 157 F.3d 1340, 48 U.S.P.Q.2d (BNA) 1225 (Fed. Cir. 1988).

568. Although written before the passage of the DMCA, Lande and Sobin discuss “technological locks” on software and conclude:

The lawfulness of such a scheme may well turn on whether there was any plausible justification based on enhanced functionality, reduced cost, or other pro-competitive objectives for the added code. If it was a device designed purely to disadvantage competitors and lacked any pro-competitive redeeming merit, it may well result in antitrust liability.

Lande & Sobin, *supra* note 407, at 270–71.

569. The Joint Explanatory Statement of the Committee of Conference on the DMCA showed the focus was technology, not competition:

It is the understanding of the conferees that technological measures will most often be developed through consultative, private sector efforts by content owners, and makers of computers, consumer electronics and telecommunications devices . . . . One of the benefits of such consultation is to allow testing of proposed technologies to determine whether there are adverse effects on the ordinary performance of playback and display equipment in the marketplace, and to take steps to eliminate or substantially mitigate those effects before technologies are introduced. The public interest is well-served by such activities.

H.R. REP. NO. 105-796, at 64–65 (1998).

companies by upholding licenses, other contract provisions, or technical mechanisms that unnecessarily and substantially limit competition.